

FEDERAL PROJECT

BEFORE SUBMITTING YOUR BID

- 1. Use pen and ink to complete the Bid.**
- 2. Have you signed and completed the Contract Agreement, Offer & Award Forms?**
- 3. As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book.**
- 4. Have you included prices for all Bid Items? (“Zero is not considered a bid price.”)**
- 5. Have you included a bid guarantee? Acceptable forms are:**
 - A. Bid Bond on the Department’s prescribed form for 5% of the Bid Amount. (Or forms that do not contain any significant variations from the Department’s forms as solely determined by the Department.)**
 - B. Official Bank Check, Cashier’s Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.**
- 6. If the written Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building in Augusta. Other means, such as U.S. Postal Services’ Express Mail has proven not to be reliable.**

AND FOR FEDERAL AID PROJECTS

- 7. Have you included your DBE Proposed Utilization Form in the proper amounts, and furnished the completed form to the Contracts section by 4:30pm on bid opening day?**

If you need further information regarding Bid preparation, call the DOT Contracts Section at (207)624-3410.

For complete specifications regarding bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision December 2002.

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes at the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contract Rebecca Pooler at rebecca.pooler@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/Town of _____ and State of _____

as Principal, and _____ as Surety, a

Corporation duly organized under the laws of the State of _____ and having a usual place of

Business in _____ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of _____ for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of _____

_____ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this _____ day of _____ 20____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

Please use the attached “Request for Information” form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required.

REQUEST FOR INFORMATION

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

Response By:_____ Date:_____

INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan to the Contract's Engineer by 4:30 P.M. on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone and fax number.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each DBE firm to be used, provide the Unit or Item cost of the Work/Product to be provided by the DBE firm, give a brief description of the Work, and the dollar value of the Work.

If no DBE firm is to be utilized, the Contractor must document the reason(s) why no DBE firms are being used. Specific supporting evidence of good faith efforts taken by Contractors to solicit DBE Bidders must be attached. This evidence, as a minimum, includes phone logs, e-mail and/or mail DBE solicitation records, and the documented results of these solicitations.

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder must submit the Disadvantaged Business Enterprise Proposed Utilization form by close of Business (4:30 P.M.) on Bid day.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact Equal Opportunity at (207) 624-3066.

MDOT's DBE Directory of Certified firms can also be obtained at http://www.state.me.us/mdot/humnres/o_equalo/cdwbed_h.htm

**MaineDOT CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE
PROPOSED UTILIZATION FORM**

Low Bidder must furnish this form to Contracts Section Bid Opening day.

Contractor: _____

Telephone: _____

Prepared by: _____

Fax: _____

BID PRICE: \$ _____

BID DATE: ____/____/____

FEDERAL PIN # _____

PROJECT LOCATION: _____

TOTAL DBE _____ % PARTICIPATION FOR THIS PROJECT

W B E•	D B E•	Firm Name	Unit/Item Cost	Unit #	Description of Work & Item Number	Actual \$ Value
Total >						

Attach supporting evidence to the maximum participation of DBEs on this project. This is a requirement. This evidence must include name of firm(s) contacted, date contacted, and outcome of solicitation.

Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

____ Accepted ____ Rejected _____

cc: ☐ Contracts ☐ Other _____

- WBEs are non-minority women owned firms certified by MaineDOT
 - DBEs are male and minority owned firms certified by MaineDOT
- For a complete list of certified firms go to <http://www.maine.gov/mdot>

State of Maine
VENDOR FORM
For New Vendors & for Updates on Current Vendors

Special Instructions:

PLEASE PRINT CLEARLY

Return this form to:

* = MUST BE COMPLETED TO PROCESS

ONLY ONE NAME/VENDOR PER FORM

New Vendor <input type="text"/>	Address Change <input type="text"/>	Multi Address <input type="text"/>	Name Change <input type="text"/>	Contact Update <input type="text"/>	ID # Change <input type="text"/>
------------------------------------	--	---------------------------------------	-------------------------------------	--	-------------------------------------

Social Security Number*
Individual or Sole Proprietor

OR

Federal Taxpayer ID Number*
Corporation

S

Business name in "DBA" field below.

Please fill in ONE.

E

Business name in "Name" field below.

This form will affect all transactions with ALL state agencies.

NEW:*

Remit to Address: Individual or Business Name.

Name*

DBA or C/O

Address*

Tel #*

OLD:

Old number:

Name

DBA or C/O

Address

Tel #

	Is this the same name on your Social Security card?
	If not, have you told Social Security about your name change?

Acct #	<input style="width: 800px;" type="text"/>
Provider #	<input style="width: 800px;" type="text"/>

Signature*

Contact Name

Print Name or Title

Accounts Receivable Contact Name

Date* (within 3 months)

Phone # if Different or for Contact Info

Vendor Indicators: Enter Y (Yes) For All Categories Listed Below That Apply To This Vendor

Dealer:	<input style="width: 60px;" type="text"/>
Jobber:	<input style="width: 60px;" type="text"/>
Individual:	<input style="width: 60px;" type="text"/>
Minority:	<input style="width: 60px;" type="text"/>

Manufacturer:	<input style="width: 60px;" type="text"/>
Retailer:	<input style="width: 60px;" type="text"/>
Partnership:	<input style="width: 60px;" type="text"/>
Small Business:	<input style="width: 60px;" type="text"/>

Factory Rep:	<input style="width: 60px;" type="text"/>
Commodity:	<input style="width: 60px;" type="text"/>
Incorporated:	<input style="width: 60px;" type="text"/>
In-State:	<input style="width: 60px;" type="text"/>

Information on State Agency Submitting Vendor Form

State Agency* & SHS #	Contact Person Name & Title*	Telephone #*
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Send to: Maine Department of Transportation/ Contracts 16 SHS, Augusta, ME 04333-0014 Attn: Pat Brown

May-04

INSTRUCTIONS FOR COMPLETING VENDOR FORM

1. **Print Clearly**
2. **All sections marked with an * must be completed for processing**
3. **Send completed form to requesting State agency OR remit to address at bottom of form.**
4. **Do NOT send by Fax. Only originals will be accepted.**

<u>FIELDS</u>	<u>INFORMATION NEEDED FOR FIELD</u>
<i>Instructi ons</i>	<i>Instructions to Vendor from Agency requesting information.</i>
<i>Return to</i>	<i>The location of agency where the form is to be mailed back to. If none use address at bottom of form.</i>
Boxes above	Please check mark all that apply to the vendor. If other, please specify. If it's a new vendor only one will apply: "New Vendor"
Social Security	Individuals, individuals "doing business as", and individuals without a Federal Taxpayer ID #. Use if not using EIN
Federal Taxpayer	Businesses or professionals providing services. (ID # needs to be use for REMITTANCE purposes.) Use if not using SSN
New	Current Information
Old	Old information (If another ID# had been used please put it next to "OLD")
Name	Individual's Name or Business Name. ONLY ONE name per a form.
DBA or C	"Doing business as" or "In Care Of"
Address	REMITTANCE ADDRESS - Street Address OR PO Box (one or the other)
Tel #	Phone Number of individual or business
Signature	Individual or authorized representative of individual or authorized representative of the business
Date	Current Date (no more than 3 months old)
Contact N	Contact person at business

Accounts Receivable Contact Name	Contact person at business for accounts receivables.
Phone #	Phone for Act Rec Contact
Vendor Indicator s	Indicate all that apply for the vendor, as needed
Agency In	For Agency personnel submitting the form. Contact info incase of questions.



Office of Human Resources

Equal Opportunity

MAINE DEPARTMENT OF TRANSPORTATION

Certified Disadvantaged and Women Business Enterprise

DBE DIRECTORY - MINORITY OWNED

WBE DIRECTORY - WOMEN OWNED

WEBSITE FOR DIRECTORY CAN BE FOUND AT:

http://www.state.me.us/mdot/humnres/o_equalo/cdwbed_h.htm

It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listings.

TRUNDY ROAD
RECONSTRUCTION PROJECT

PIN 008188.01

SEPTEMBER 2004

TRUNDY ROAD RECONSTRUCTION
SEARSPORT- WALDO COUNTY
PIN 008188.01

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APPENDICES

TRUNDY ROAD
RECONSTRUCTION PROJECT
SEARSPORT-WALDO COUNTY
PIN 008188.01

SECTION 1

STATE OF MAINE DEPARTMENT OF TRANSPORTATION NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bid for building Trundy Road Reconstruction in the town of Searsport" will be received from contractors at the Reception Desk, Maine DOT Building, Child Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on October 27, 2004, and at that time and place publicly opened and read. Bids will be accepted from contractors prequalified by the Department of Transportation for highway projects. All other Bids may be rejected. **MDOT provides the option of electronic bidding. We accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening.** During this transition, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.

Description: Maine Federal Aid Project No. HP-8188(01)X, PIN. 8188.01

Location: In Waldo County, project is located off Route 1 on the Trundy Road in Searsport.

Outline of Work: Highway reconstruction with watermain work, HMA, signage, security enhancements, small building fencing, lighting, railroad crossing, gate structures, and other incidental work.

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at <http://www.state.me.us/mdot/project/design/homepg.htm> contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Project Manager Paul Pottle** at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at (207) 624-3007.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207)624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$72.00 (\$78.00 by mail). Half size plans \$36.00 (\$40.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$60,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

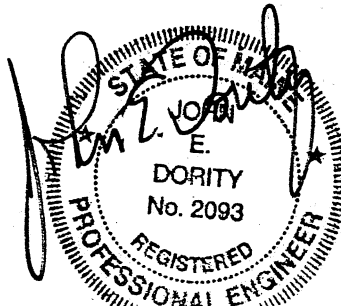
This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates can be found at <http://www.state.me.us/mdot/project/design/homepg.htm>

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine
October 6, 2004

JOHN E. DORITY
CHIEF ENGINEER



SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS
&
SUBMISSION OF BID BOND VALIDATION NUMBER (IF APPLICABLE)

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>. It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

MAINE DEPARTMENT OF TRANSPORTATION

BID

DATE OF OPENING :

CALL ORDER :

CONTRACT ID : 008188.01

PROJECTS

HP-8188(01)X

COUNTY : WALDO

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 BID ITEMS						
0010	201.12 SELECTIVE CLEARING AND THINNING	0.500 AC				
0020	201.24 REMOVING STUMP	10.000 EA				
0030	203.21 ROCK EXCAVATION	25.000 CY				
0040	203.22 UNCLASSIFIED EXCAVATION	11840.000 CY				
0050	203.24 COMMON BORROW	640.000 CY				
0060	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	5850.000 CY				
0070	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	7470.000 CY				
0080	403.207 HOT MIX ASPHALT 19.0 MM HMA	5345.000 T				
0090	403.208 HOT MIX ASPHALT 12.5 MM HMA SURFACE	2005.000 T				
0100	603.159 12 INCH CULVERT PIPE OPTION III	95.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	603.179 18 INCH CULVERT PIPE OPTION III	340.000 LF				
0120	603.199 24 INCH CULVERT PIPE OPTION III	65.000 LF				
0130	603.209 30 INCH CULVERT PIPE OPTION III	120.000 LF				
0140	604.15 MANHOLE	1.000 EA				
0150	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	2.000 EA				
0160	604.182 CLEAN EXISTING CATCH BASIN AND MANHOLE	1.000 EA				
0170	605.09 6 INCH UNDERDRAIN TYPE B	2100.000 LF				
0180	605.10 6 INCH UNDERDRAIN OUTLET	200.000 LF				
0190	606.17 GUARDRAIL TYPE 3B - SINGLE RAIL	500.000 LF				
0200	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	4.000 EA				
0210	606.363 GUARDRAIL REMOVE AND DISPOSE	500.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0220	607.19 CHAIN LINK FENCE - 8 FOOT - WITH BARBED WIRE	950.000 LF				
0230	607.2332 CHAIN LINK FENCE SLIDING GATE 8' X 14' W/ OPERATOR	2.000 EA				
0240	607.2336 CHAIN LINK FENCE SLIDING GATE 8' X 24' W/ OPERATOR	1.000 EA				
0250	607.2338 CHAIN LINK FENCE SLIDING GATE 8' X 28' W/ OPERATOR	1.000 EA				
0260	607.33 BRACING ASSEMBLY TYPE II - METAL POSTS	5.000 EA				
0270	608.07 PLAIN CONCRETE SIDEWALK	23.000 SY				
0280	608.08 REINFORCED CONCRETE SIDEWALK	82.000 SY				
0290	609.11 VERTICAL CURB TYPE 1	108.000 LF				
0300	609.12 VERTICAL CURB TYPE 1 - CIRCULAR	34.000 LF				
0310	609.2371 TERMINAL CURB TYPE 1- 7 FT - CIRCULAR	4.000 EA				
0320	615.07 LOAM	360.000 CY				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0330	618.1401 SEEDING METHOD NUMBER 2 - PLAN QUANTITY	80.000 UN				
0340	625.082 1 INCH COPPER TUBING	300.000 LF				
0350	625.086 2 INCH COPPER TUBING	16.000 LF				
0360	626.11 PRECAST CONCRETE JUNCTION BOX	11.000 EA				
0370	626.212 RGS /PVC COATED METALLIC CONDUIT CONCRETE ENCASED	6200.000 LF				
0380	626.221 NON-METALLIC CONDUIT CONCRETE ENCASED	200.000 LF				
0390	626.37 SPECIAL FOUNDATION 24 INCH	18.000 EA				
0400	627.18 12 " SOLID WHITE PAVEMENT MARKING	50.000 LF				
0410	627.619 12 INCH SOLID YELLOW PAVEMENT MARKING LINE	200.000 LF				
0420	627.711 WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	14000.000 LF				
0430	627.75 WHITE OR YELLOW PAVEMENT AND CURB MARKING	370.000 SF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0440	637.071 DUST CONTROL	LUMP	LUMP			
0450	639.19 FIELD OFFICE TYPE B	EA 1.000				
0460	645.251 ROADSIDE GUIDE SIGNS	SF 352.000				
0470	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	SF 225.000				
0480	645.280 WOOD POST	EA 24.000				
0490	645.289 STEEL H-BEAM POLES	LB 3000.000				
0500	648.5201 RECONSTRUCT GRADE CROSSINGS - PASSIVE	TF 446.000				
0510	648.5202 FURNISH AND INSTALL RUBBER RAILROAD CROSSING	TF 60.000				
0520	652.312 TYPE III BARRICADE	EA 3.000				
0530	652.33 DRUM	EA 25.000				
0540	652.34 CONE	EA 75.000				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0550	652.35 CONSTRUCTION SIGNS	75.000 SF				
0560	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP	LUMP			
0570	652.38 FLAGGER	160.000 HR				
0580	652.381 TRAFFIC OFFICERS	100.000 HR				
0590	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
0600	659.10 MOBILIZATION	LUMP	LUMP			
0610	815.301 SECURITY ENTRANCE BUILDING	LUMP	LUMP			
0620	822.33 6 INCH CLASS 52 DUCTILE IRON PIPE	180.000 LF				
0630	822.34 8 INCH CLASS 52 DUCTILE IRON PIPE	715.000 LF				
0640	822.36 12 INCH DUCTILE IRON PIPE	4900.000 LF				
0650	822.362 POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE	2500.000 LF				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0660	822.40 6 INCH COUPLING	EA 1.000				
0670	822.41 8 " COUPLING	EA 1.000				
0680	822.42 1 " COUPLING	EA 2.000				
0690	823.30 DUCTILE IRON FITTINGS FOR WATER PIPE	LB 17500.000				
0700	823.311 12 INCH GATE VALVE WITH BOX	EA 13.000				
0710	823.3251 8 INCH GATE VALVE WITH BOX	EA 4.000				
0720	823.3253 TAPPING SLEEVE & GATE VALVE WITH BOX - 10 INCH	EA 1.000				
0730	823.33 6 INCH GATE VALVE WITH BOX	EA 11.000				
0740	824.30 FIRE HYDRANT	EA 9.000				
0750	824.31 REMOVE FIRE HYDRANT	EA 1.000				
0760	824.32 REMOVE/RESET HYDRANT	EA 1.000				

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 008188.01

PROJECT(S): HP-8188(01)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0770	825.1495 RAILROAD CROSSING SLEEVE	50.000 LF				
0780	825.32 2 INCH CORPORATION	1.000 EA				
0790	825.322 2" CURB STOP - W/ BOX	1.000 EA				
0800	825.33 1 INCH CORP STOP	4.000 EA				
0810	825.331 1" CURB STOP - W/ BOX	4.000 EA				
0820	825.343 SPECIAL WATER SERVICE FACILITY	LUMP	LUMP			
0830	841.47 STEEL BOLLARD	8.000 EA				
0840	841.471 STEEL GUIDE POST	8.000 EA				
0850	844.19 SITE LIGHTING SYSTEM	LUMP	LUMP			
0860	846.19 CCTV SYSTEM	LUMP	LUMP			
	SECTION 0001 TOTAL					
	TOTAL BID					

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **8188.01** for **Trundy Road Reconstruction** in the town of **Searsport**, County of **Waldo**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **July 29, 2005**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

\$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN. 8188.01 - Trundy Road Reconstruction - in the town of Searsport,

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **8188.01** for **Trundy Road Reconstruction** in the town of **Searsport**, County of **Waldo**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **July 29, 2005**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

\$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN. 8188.01 - Trundy Road Reconstruction - in the town of Searsport.

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

(Name of the firm bidding the job)

a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at (address of the firm bidding the job)

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 1224.00

for the Hot Mix Asphalt Overlay in the town/city of West Eastport, County of Washington, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before November 15, 2003. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is (Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)
\$ (repeat bid here in numerical terms, such as \$102.10) Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 1234.00 West Eastport, Hot Mix Asphalt Overlay

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR
(Sign Here)

(Signature of Legally Authorized Representative
of the Contractor)
(Witness Sign Here) _____ (Print Name Here)
Witness _____
(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David A. Cole, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **and the State of** _____, as principal,
and.....
a corporation duly organized under the laws of the State of and having a
usual place of business
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum
of _____ **and 00/100 Dollars (\$** _____ **)**,
to be paid said Treasurer of the State of Maine or his successors in office, for which
payment well and truly to be made, Principal and Surety bind themselves, their heirs,
executors and administrators, successors and assigns, jointly and severally by these
presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly and faithfully performs the Contract, then this
obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State
of Maine.

Signed and sealed this day of, 20.....

WITNESSES:

Signature.....

Print Name Legibly

Signature

Print Name Legibly

SURETY ADDRESS:

.....

.....

.....

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....

Print Name Legibly

SURETY:

.....

Print Name Legibly

NAME OF LOCAL AGENCY:

ADDRESS

.....

.....

.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **and the State of** _____, as principal,
and.....
a corporation duly organized under the laws of the State of and having a
usual place of business in
as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use
and benefit of claimants as herein below defined, in the sum of
_____ **and 00/100 Dollars (\$** _____ **)**
for the payment whereof Principal and Surety bind themselves, their heirs, executors and
administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly satisfies all claims and demands incurred for all
labor and material, used or required by him in connection with the work contemplated by
said Contract, and fully reimburses the obligee for all outlay and expense which the
obligee may incur in making good any default of said Principal, then this obligation shall
be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a
Subcontractor of the Principal for labor, material or both, used or reasonably required for
use in the performance of the contract.

Signed and sealed this day of, 20

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

TELEPHONE

.....

General Decision Number: ME030009 07/30/2004 ME9

Superseded General Decision Number: ME020009

State: Maine

Construction Types: Highway

Counties: Aroostook, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Piscataquis, Sagadahoc, Somerset, Waldo and York Counties in Maine.

HIGHWAY CONSTRUCTION PROJECTS excluding major bridging (for example: bascule, suspension and spandrel arch bridges; those bridging waters presently navigating or to be navigatable; and those involving marine construction in any degree); tunnels, building structures in rest area projects and railroad construction.

Modification Number	Publication Date
0	06/13/2003
1	07/30/2004

* ENGI0004-015 04/01/2004

	Rates	Fringes
Power equipment operators:		
Pavers.....	\$ 16.51	6.70
Rollers.....	\$ 16.51	6.70

SUME2000-008 10/24/2000

	Rates	Fringes
Carpenter.....	\$ 11.60	1.51
Ironworkers:		
Structural.....	\$ 12.03	1.58
Laborers:		
Drillers.....	\$ 10.00	2.50
Flaggers.....	\$ 6.00	
Guardrail Installers.....	\$ 7.92	
Landscape.....	\$ 7.87	.16
Line Stripper.....	\$ 8.69	.23
Pipelayers.....	\$ 9.21	2.31
Rakers.....	\$ 9.00	1.51
Sign Erectors.....	\$ 10.00	
Unskilled.....	\$ 8.66	1.38
Wheelman.....	\$ 8.50	.43
Power equipment operators:		
Backhoes.....	\$ 11.87	2.05
Bulldozers.....	\$ 12.33	2.88
Cranes.....	\$ 14.06	1.75
Excavators.....	\$ 12.38	2.48
Graders.....	\$ 13.06	3.73
Loaders.....	\$ 11.41	2.87
Mechanics.....	\$ 13.18	2.57
Truck drivers:		
Dump.....	\$ 9.35	3.10
Tri axle.....	\$ 8.70	1.18

Two axle.....\$ 8.56 2.19

 WELDERS - Receive rate prescribed for craft performing
 operation to which welding is incidental.
 =====

Unlisted classifications needed for work not included within
 the scope of the classifications listed may be added after
 award only as provided in the labor standards contract clauses
 (29CFR 5.5 (a) (1) (ii)).

 In the listing above, the "SU" designation means that rates
 listed under the identifier do not reflect collectively
 bargained wage and fringe benefit rates. Other designations
 indicate unions whose rates have been determined to be
 prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can
 be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on
 a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests
 for summaries of surveys, should be with the Wage and Hour
 Regional Office for the area in which the survey was conducted
 because those Regional Offices have responsibility for the
 Davis-Bacon survey program. If the response from this initial
 contact is not satisfactory, then the process described in 2.)
 and 3.) should be followed.

With regard to any other matter not yet ripe for the formal
 process described here, initial contact should be with the
 Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an
 interested party (those affected by the action) can request
 review and reconsideration from the Wage and Hour Administrator
 (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

General Decision Number: ME030002 07/30/2004 ME2

Superseded General Decision Number: ME020002

State: Maine

Construction Types: Building

Counties: Aroostook, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Piscataquis, Sagadahoc, Somerset, Waldo, Washington and York Counties in Maine.

Building Construction Projects (does not include single family homes and apartments up to and including 4 stories).

Modification Number	Publication Date
0	06/13/2003
1	09/19/2003
2	10/10/2003
3	11/07/2003
4	07/30/2004

* BOIL0029-003 10/01/2003

	Rates	Fringes
Boilermaker.....	\$ 25.46	12.72

CARP1996-002 10/01/2003

	Rates	Fringes
Carpenters:		
Millwright.....	\$ 20.25	8.45

* ELEC0490-002 06/01/2003

YORK COUNTY (Townships of Alfred, Lebanon, Sanford, Wells and area south thereof)

	Rates	Fringes
Electrician.....	\$ 23.90	10.81
Teledata System Installer.....	\$ 18.75	10.11

ELEC0567-002 06/01/2003

AROOSTOOK COUNTY; FRANKLIN COUNTY: Entire County excluding Carthage, Perkins Plantation, Temple, Farmington, Industry Township and area south thereof; LINCOLN COUNTY: Townships of Boothbay, Bristol, Edgecomb, Newcastle, Westport, Wiscasset; OXFORD COUNTY; PISCATAQUIS COUNTY: Entire county excluding Bernard, Bowerbank, Brownville, Greenville, Elliotsville, Lake View, Squaw, Williamsburg Townships and areas south thereof; SAGADAHOC COUNTY: Entire county south of Bowdoin and Bowdoinham Townships; SOMERSET COUNTY: Entire county west of the Kennebec River and north of Starks Townships; YORK COUNTY: Entire county excluding Alfred, Lebanon, Sanford and Wells Township and area south thereof.

	Rates	Fringes
Electricians:.....	\$ 23.88	10.27
Teledata Technician.....	\$ 19.00	8.73

* ELEC1253-002 08/01/2003

FRANKLIN COUNTY: Townships of Carthage, Chesterville, Farmington, Industry, Jay, Perkins Pl., New Sharon, Temple, Washington Pl., Wilton; HANCOCK COUNTY; KENNEBEC COUNTY; KNOX COUNTY; LINCOLN COUNTY; PISCATAQUIS COUNTY: Townships of Abbott, Atkinson, Bernard, Blanchard, Bowerbank, Brownville, Dover/Foxcroft, Elliotsville, Greenfield, Guildford, Kingsbury, Little Squaw, Medford, Milo, Monson, Orneville, Parkman, Sangerville, Sebec, Shirley, Squaw, Wellington, Williamsburg, Willimantic; SAGADAHOC COUNTY: Townships of Bowdoin, Bowdoinham, Richmond; SOMERSET COUNTY: Townships of Athens, Bald Mt., Bingham, Brighton Place, Canaan, Carratunk, Cornville, East Moxie, Fairfield, Harmony, Hartland, Indian Pond, Madison, Mayfield, Mercer, Moxie Gore, Norridgewock, Palmyra, Pittsfield, Ripley, Skowhegan, Sonon, Squaretown, Starks, St. Albans, The Forks; WALDO COUNTY; WASHINGTON COUNTY

	Rates	Fringes
Electricians:.....	\$ 22.62	10.95
Teledata Technicians.....	\$ 19.00	8.73

* ENGI0004-006 06/01/2004

	Rates	Fringes
Power equipment operators:		
GROUP I.....	\$ 26.08	13.86
GROUP II.....	\$ 25.80	13.86

Group I: Backhoes, Cranes, Excavators, Loaders, Pile Drivers
Group II: Bulldozers, Rollers

IRON0496-001 09/16/2003

	Rates	Fringes
Ironworkers:		
Structural and Reinforcing..	\$ 20.15	14.99

* PLUM0716-001 01/13/2004

	Rates	Fringes
Pipefitter (including HVAC work).....	\$ 21.46	11.35

* SHEE0017-009 01/01/2004

	Rates	Fringes
Sheetmetal Worker.....	\$ 18.01	12.635

SUME2000-002 10/24/2000

Rates	Fringes
Bricklayer.....\$ 14.39	
Carpenters: (including acoustical ceiling installation, drywall hanging and batt insulation installation).....\$ 14.09	3.47
Cement Mason/Finisher.....\$ 12.24	1.48
Drywall Finisher.....\$ 14.42	
Elevator Constructor.....\$ 17.63	3.18
Laborers: (including general laborers and brick mason tenders).....\$ 10.59	4.61
Painters:	
Brush, Roller.....\$ 11.03	
Plasterer.....\$ 14.02	
Plumber.....\$ 12.59	1.91
Roofer.....\$ 11.97	1.32
Sprinkler Fitter.....\$ 13.56	2.65

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates
listed under the identifier do not reflect collectively
bargained wage and fringe benefit rates. Other designations
indicate unions whose rates have been determined to be
prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can
be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on
a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests
for summaries of surveys, should be with the Wage and Hour
Regional Office for the area in which the survey was conducted
because those Regional Offices have responsibility for the
Davis-Bacon survey program. If the response from this initial
contact is not satisfactory, then the process described in 2.)
and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

SPECIAL PROVISION
CONSTRUCTION AREA

A Construction Area located in the **Town of Searsport** has been established by the Maine Department of Transportation in accordance with provisions of Title 29, Section 1703, Maine Revised Statutes Annotated.

- (a) The section of highway under construction beginning at Sta. 101+11 and ending at Sta. 149+50 of the construction centerline plus approaches.
- (b) (Trundy Rd.) The section of highway under construction beginning at Sta. 101+11 and ending at Sta. 149+50 of the new construction centerline plus approaches.

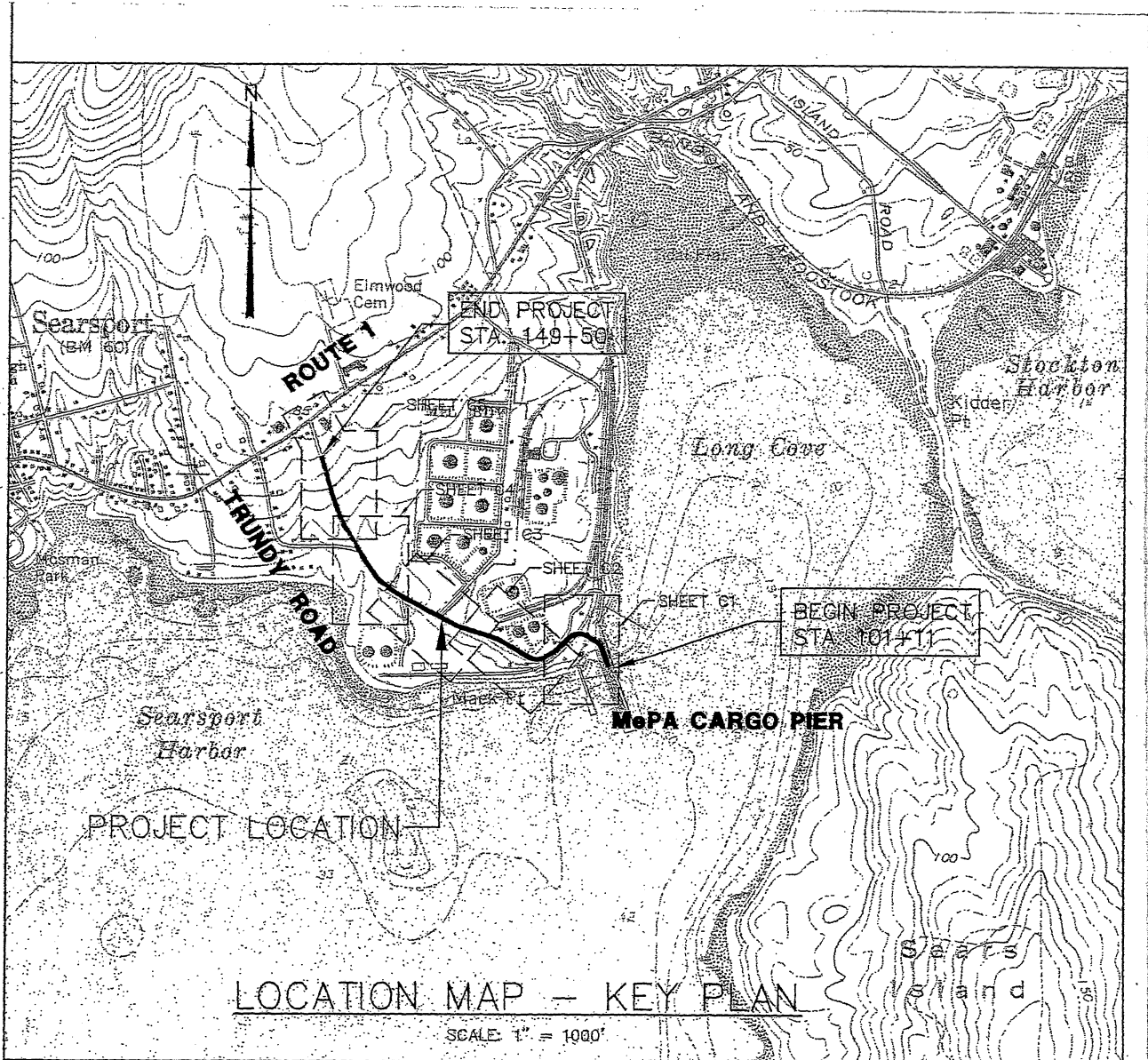
The State Department of Transportation or the State's Engineer may issue permits for stated periods of time for moving construction equipment without loads, low-bed trailers with overloads, over-height, over-width or over-length equipment or materials over all State maintained sections described in the "Construction Area" above and in addition may issue permits for stated periods of time for moving overweight vehicles and loads over the section described in (a) above. The right to revoke such a permit at any time is reserved by the State Department of Transportation and the issuance of such permits shall be subject to any Special Provisions or Supplemental Specifications written for this project.

A Temporary Permit for each move may be issued by the State Department of Transportation or the State's Engineer for moving Contractor's construction equipment used on the project which exceeds the legal limits (shovels, bulldozers, etc.) to sources of construction material over highways maintained by the State reasonably within the area of the project.

The Municipal Officers for the **Town of Searsport** agreed that a permit will be issued to the Contractor for the purpose of hauling loads in excess of the limits as specified in Title 29, Maine Revised Statutes Annotated, on the town ways as described in the "Construction Area" and that single move permits will be issued for moving Contractor's construction equipment used on the project which exceeds the legal limits (shovels, bulldozers, etc.) to sources of construction material over town ways reasonably within the area of the project.

In the event it is necessary to transport gravel, borrow, or other construction material in legally registered vehicles carrying legal loads over town ways, a Contractor's Bond of not more than Nine Thousand (\$9,000.00) per kilometer of traveled length may be required by the town, the exact amount of said bond to be determined prior to use of any town way.

The maximum speed limits for trucks on any town way will be forty (40) km per hour [25 mph], unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.



SPECIAL PROVISION
CONSTRUCTION AREA

Title 29A, M.R.S.A., Subsection 2383. Overlimit movement permits

1. Overlimit movement permits issued by State. The Secretary of State, acting under guidelines and advice of the Commissioner of Transportation, may grant permits to move non-divisible objects having a length, width, height or weight greater than specified in this Title over a way or bridge maintained by the Department of Transportation.
2. Permit Fee. The Secretary of State, with the advice of the Commissioner of Transportation, may set the fee for these permits, at not less than \$3, nor more than \$15, based on weight, height, length and width.
3. County and municipal permits. A permit may be granted, for a reasonable fee, by county commissioners or municipal officers for travel over a way or bridge maintained by that county or municipality.
4. Permits for weight. A vehicle granted a permit for excess weight must first be registered for the maximum gross vehicle weight allowed for that vehicle.
5. Special mobile equipment. The Secretary of State may grant a permit, for no more than one year, to move pneumatic-tire equipment under its own power, including Class A and Class B special mobile equipment, over ways and bridges maintained by the Department of Transportation. The fee for that permit is \$15 for each 30-day period.
6. Scope of permit. A permit is limited to the particular vehicle or object to be moved and particular ways and bridges.
7. Construction permits. A permit for a stated period of time may be issued for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The Permit:
 - A. Must be procured from the municipal officers for a construction area within that municipality;
 - B. May require the Contractor to be responsible for damage to ways used in the construction areas and may provide for:
 - (1) Withholding by the agency contracting the work of final payment under contract; or
 - (2) The furnishing of a bond by the Contractor to guarantee suitable repair or payment damages.
 - C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and
 - D. For construction areas, carries no fee and does not come within the scope of this section.
8. Gross vehicle weight permits. The following may grant permits to operate a vehicle having a gross vehicle weight exceeding the prescribed limit:

February 7, 1996

Supersedes

May 8, 1995

- A. The Secretary of State, with the consent of the Department of Transportation, for state and state aid highways and bridges within city or compact village limits;
 - B. Municipal officers, for all other ways and bridges within that city and compact village limits; and
 - C. The county commissioners, for county roads and bridges located in unorganized territory.
9. Pilot vehicles and state police escorts. Pilot vehicles required by a permit must be equipped with warning lights and signs as required by the Secretary of State with the advice of the Department of Transportation.

Warning lights may only be operated and lettering on the signs may only be visible on a pilot vehicle while it is escorting on a public way a vehicle with a permit.

The Secretary of State shall require a State Police escort for a single vehicle or a combination of vehicles of 125 feet or more in length or 16 feet or more in width. The Secretary of State, with the advice of the Commissioner of Transportation, may require vehicles of lesser dimensions to be escorted by the State Police.

The Bureau of State Police shall establish a fee for State Police escorts.

All fees collected must be used to defray the cost of services provided.

With the advice of the Commissioner of Transportation and the Chief of the State Police, the Secretary of State shall establish rules for the operation for the operation of pilot vehicles.

10. Taxes paid. A permit for a mobile home may not be granted unless the applicant provides reasonable assurance that all property taxes, sewage disposal charges and drain and sewer assessments applicable to the mobile home, including those for the current tax year, have been paid or that the mobile home is exempt from those taxes.

1993, c. 683, § S-2, eff. January 1, 1995.

Historical and Statutory Notes

Derivation:

R.S. 1954, c. 22 § 98
Laws 1955, c. 389
Laws 1967, c. 3.
Laws 1971, c. 593, § 22.
Laws 1973, c. 213.
Laws 1975, c. 130, §
Laws 1975, c. 319, § 2

Laws 1977, c. 73, § 5.
Laws 1981, c. 413.
Laws 1985, c. 225, § 1
Laws 1987, c. 52.
Laws 1987, 781, § 3.
Laws 1989, c. 866, § B-13.
Laws 1991, c. 388, § 8.
Laws 1993, c. 683, § A-1.
Former 29 M.R.S.A. § 2382.

Cross Reference

Collection by Secretary of State, See 29-A
M.R.S.A. § 154.



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

THE MAINE PORT AUTHORITY
Searsport, Waldo County
MACK POINT SECURITY GATE
L-20220-4E-A-N (approval)

) NATURAL RESOURCE PROTECTION
) FRESHWATER WETLAND ALTERATION
) WATER QUALITY CERTIFICATION
) MODIFICATION
) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of THE MAINE PORT AUTHORITY with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-20220-4E-A-N, dated August 3, 2001, the Department approved the Maine Port Authority's request to construct improvements to the Mack Point port facility. The port facility is located on the Trundy Road in the Town of Searsport. The approved facility improvements included removing an existing railroad pier, constructing a new general purpose cargo pier, reconstruction of the Sprague Energy pier, dredging a 325,200 square foot area, and constructing a 2-acre storage pad landward of the piers. Construction of the storage area would have resulted in the loss of 37,000 square feet of freshwater wetland and 100 linear feet of an intermittent stream. The applicant proposed to enhance and create freshwater wetland in and adjacent to onsite Wetlands #6 and #11 to compensate for the loss of wetland area and function from the construction of the storage pad. The 2-acre storage pad has not been constructed and no wetland alteration has occurred in that area; therefore, the approved mitigation plan has not been implemented.

B. Summary: The applicant now requests approval to construct a gated access for the Mack Point port facility to address new homeland security rules. Construction of the gated access will result in 10,500 square feet of freshwater wetland alteration in Wetland #6 and will impact a portion of the area previously approved for use as compensatory mitigation. The applicant proposes to abandon construction of the storage pad and its associated mitigation, which will bring the total freshwater wetland alteration on the parcel down to the proposed 10,500 square feet. Construction of the security gate will be

completed as shown on the plan sheet entitled "Mack Point - Searsport, Trundy Road Reconstruction," prepared by the Department of Transportation and dated June 14, 2004.

2. WETLANDS AND WATERBODIES PROTECTION RULES:

The Department's Wetlands and Waterbodies Protection Rules, Chapter 310, require that the applicant meet the following standards:

a. Avoidance. No activity may be permitted if there is a practicable alternative to the project that would be less damaging to the environment. Each application for a freshwater wetland alteration permit must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist. The applicant submitted information in regard to alternatives considered for the proposed project prepared by the Maine Department of Transportation and dated August 4, 2004. Due to the amount of wetland area that exists along the Trundy Road and the need for a single, controlled access point into the facility, wetland impacts can not be avoided.

b. Minimal Alteration. The amount of wetland to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project. The applicant has minimized wetland impacts by choosing the location along Trundy Road with the least amount of wetland impact and by incorporating best management practices into the construction plans for the project.

c. Compensation. Due to the small size of the currently proposed freshwater wetland impacts and the location of those impacts, no compensatory mitigation is required.

The Department finds that the applicant has avoided and minimized wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

3. OTHER FINDINGS:

Based on its review of the application, the Department finds the requested modification to be in accordance with all relevant Departmental standards. All other findings of fact, conclusions and conditions remain as approved in Department Order #L-20220-4E-A-N, and subsequent orders.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.
- B. The proposed activity will not cause unreasonable erosion of soil or sediment provided that all necessary erosion control measures are implemented and maintained.
- C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.
- E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
- F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.
- G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- H. The proposed activity is not on or adjacent to a sand dune.
- I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S.A. Section 480-P.

THEREFORE, the Department APPROVES the application of the Maine Port Authority to construct a security gate at the Mack Point port facility, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.
2. The applicant shall take all necessary measures to ensure that its activities or those of its agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #L-20220-4E-A-N, and subsequent orders, and are incorporated herein.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED AT AUGUSTA, MAINE, THIS 10TH DAY OF SEPTEMBER, 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

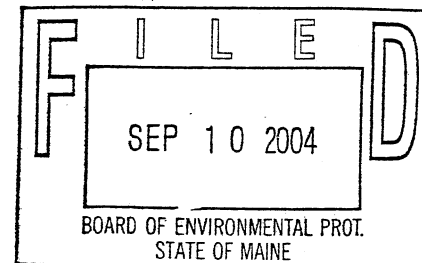
By: 
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

Date of initial receipt of application July 19, 2004

Date of application acceptance July 21, 2004

Date filed with Board of Environmental Protection
SB/ATS52854/L20220CM



**NATURAL RESOURCE PROTECTION ACT (NRPA)
STANDARD CONDITIONS**

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

- A. **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. **Compliance With All Applicable Laws.** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.
- D. **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other than specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.
- E. **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years from the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.
- F. **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.
- G. **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.
- H. **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.
- I. **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised (4/92)

DEP LW0428



REPLY TO:
ATTENTION OF:

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

Regulatory Division
CENAE-R-51

October 4, 2004

David Gardiner
Maine Dept. of Transportation
16 State House Station
Augusta, Maine 04333

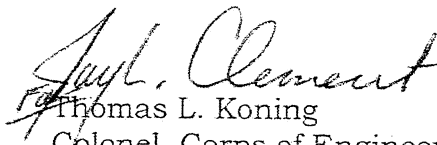
Dear Mr. Gardiner:

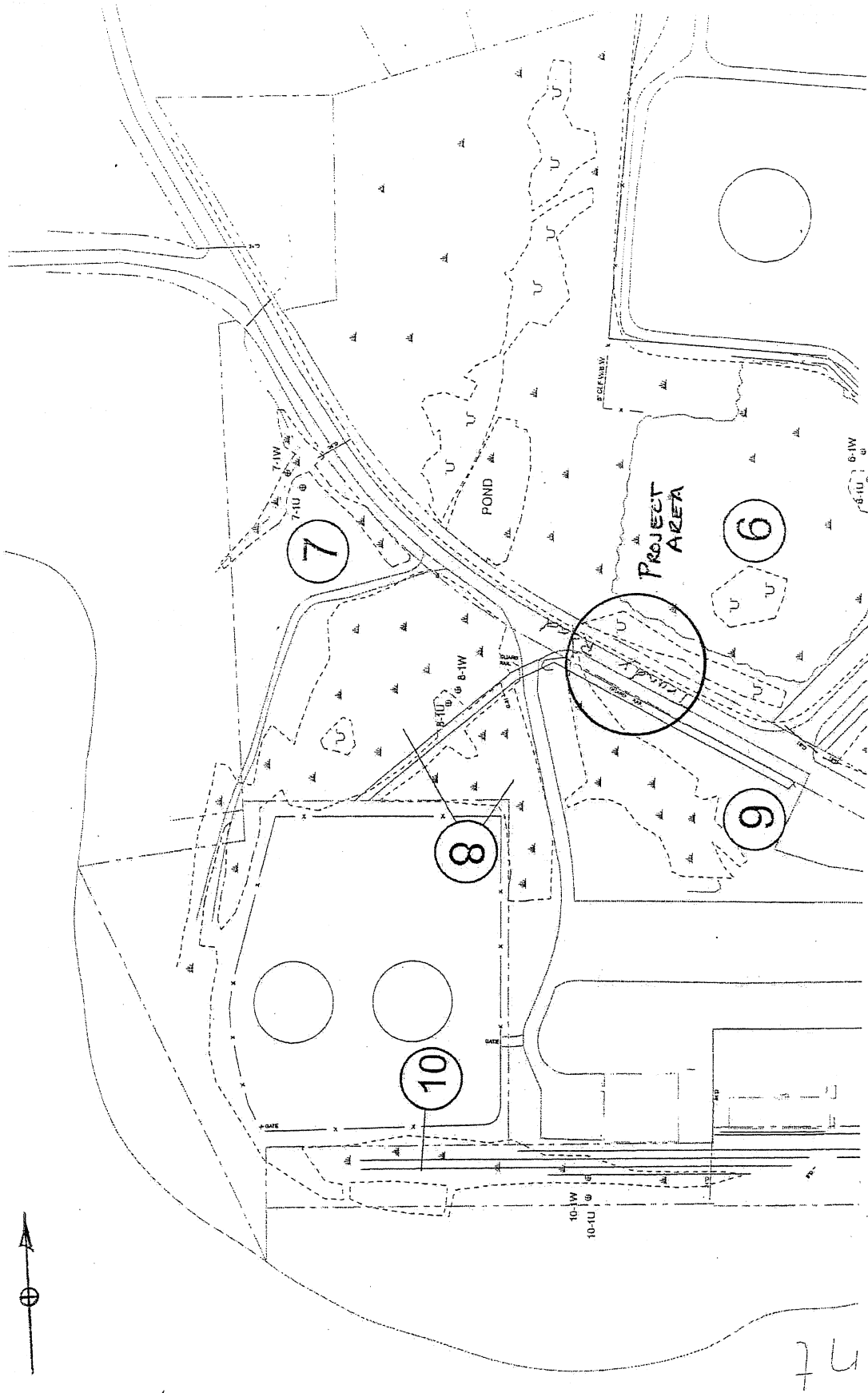
This concerns Department of the Army permit, number 200000269 which authorized work in Searsport Harbor and the filling of freshwater wetlands on Mack Point at Searsport, Maine in order to develop a new cargo terminal.

In accordance with your request, the permit is hereby amended to authorize the filling of 10,500 square feet of freshwater wetlands (0.24 acres) in order to construct a secure gated access point to the Mack Point terminal. The previously authorized filling of 37,953 square feet of wetlands (0.87 acres) for cargo storage will no longer occur nor will the associated 1.07 acres of Maine DEP mandated compensatory wetlands mitigation. The new area of wetland fill is shown on the attached plan entitled "Mack Point Improvement Project, Searsport, Maine" in two sheets dated "7/2004".

The conditions of the original permit remain in full force and effect.

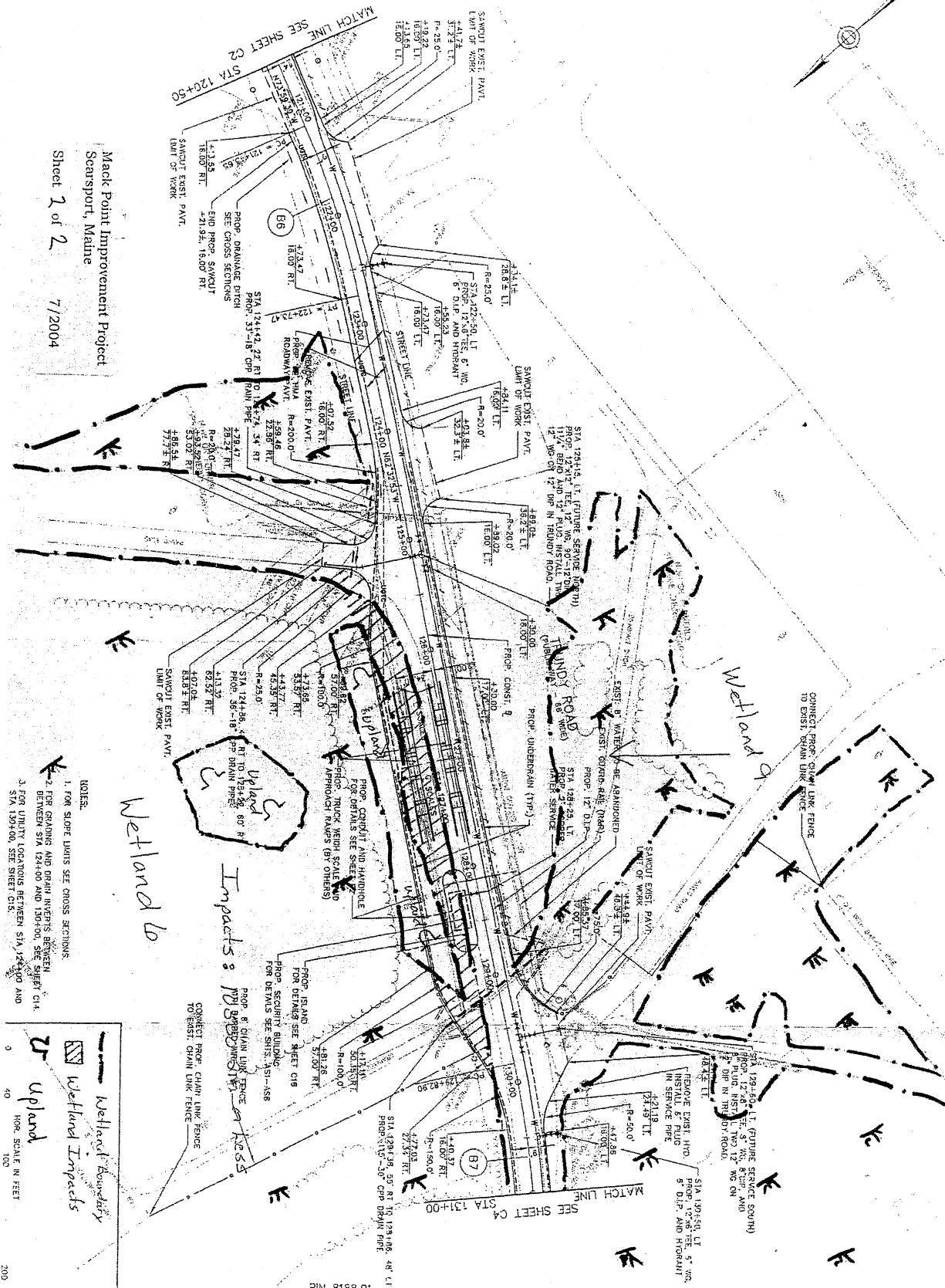
BY AUTHORITY OF THE SECRETARY OF THE ARMY:


Thomas L. Koning
Colonel, Corps of Engineers
District Engineer



Mack Point Improvement Project
Searsport, Maine

Mack Point Improvement Project
Searsport, Maine
Sheet 2 of 2
7/2004



- NOTES:
1. FOR SLOPE LIMITS SEE CROSS SECTIONS.
 2. FOR GRADING AND DRAIN INVERTS BETWEEN STA 124+00 AND 130+00, SEE SHEET C14.
 3. FOR UTILITY LOCATIONS BETWEEN STA 124+00 AND STA 130+00, SEE SHEET C15.

Legend:

- Wetland Boundary
- Wetland Impacts
- upland

0 40 100
HOR. SCALE IN FEET

<p>PIN 8188.01</p> <p>MACK POINT - SEARSPORT TRUNDY ROAD RECONSTRUCTION</p> <p>GENERAL PLAN STA 120+50 TO STA 131+00</p>		<p>PROJECT INFORMATION</p> <p>PROGRAM: MAINTENANCE</p> <p>PROJECT MANAGER: PAUL POTTEE</p> <p>DESIGNER: W. A. CHAPPEL</p> <p>CONSULTANT: FAY, SPOTTORF & PERDUE</p> <p>PROJECT RESIDENT:</p> <p>CONTRACTOR:</p> <p>PROJECT COMPLETION DATE:</p>		<p>STATE OF MAINE DEPARTMENT OF TRANSPORTATION</p> <p>APPROVED: [Signature]</p> <p>DATE: 5/2/07</p> <p>COMMISSIONER:</p> <p>CHIEF ENGINEER:</p>	
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REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

Regulatory Division
CENAE-R-51

OCT 09 2001

Paul D. Pottle
Maine Dept. of Transportation
16 State House Station
Augusta, Maine 04333

Dear Mr. Pottle:

This concerns Department of the Army permit, number 200000269 which authorized the development of a new cargo handling facility in Searsport Harbor off Mack Point at Searsport, Maine.

In a September 9, 2001 meeting with David Killoy and Jay Clement of my staff you requested that the Corps reconsider the requirements outlined in Special Condition 15 of the permit. You presented additional information to demonstrate that the potential for secondary contamination of marine sediments from demolition of the pier structures is minimal. This information included the Dredging and Disposal contract specifications and the dredging plans entitled "General Purpose Cargo Pier, Mack Point, Searsport, Maine" dated "August 8, 2001". Based on a review of the information presented and in response to your request, the permit is hereby amended to eliminate Special Condition 15.

All other conditions of the original permit remain in full force and effect.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

for
Brian E. Osterndorf
Colonel, Corps of Engineers
District Engineer

DEPARTMENT OF THE ARMY PERMIT

Permittee Maine Dept. of Transportation & Sprague Energy, c/o Maine DOT, 16 State House Sta.
Augusta, Maine 04333

Permit No. 200000269

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

develop a cargo terminal, comprising two existing piers, described as follows:

1. The existing Bangor & Aroostook Railroad pier will be removed and replaced with a new cargo pier consisting of a 357.5'x 36' steel pile supported trestle

Project Description Continued on Page 4

In accordance with the attached plans "STATE OF MAINE DOT/SPRAGUE ENERGY CORP., MACK POINT, SEARSPORT, MAINE" in 17 sheets dated "January 17, 2001".

Project Location:

In Searsport Harbor and in freshwater wetlands off Mack Point at Searsport, Maine.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on SEP 26 2006 2006. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all

Special Conditions Continued on Page 4

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

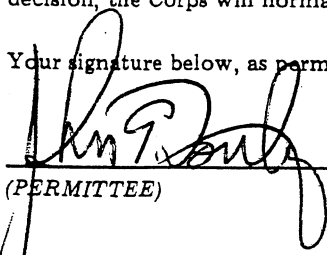
- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.

- e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

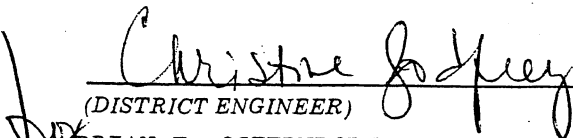
Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(PERMITTEE)


~~CORPS ENGINEER~~

9/28/01
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT ENGINEER)

9/26/01
(DATE)


BRIAN E. OSTERNDORF
COLONEL, CORPS OF ENGINEERS

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

Project Description Continued from Page 1

leading from shore to a 544'x 100' steel pile supported pier. A 5' wide walkway will extend an additional 174' beyond the pier to a 34' diameter steel pile and concrete mooring dolphin.

2. To the south, the existing Sprague terminal pier will be rehabilitated and modified to include the addition of two, 24' square steel pile and concrete mooring/breasting dolphins and a steel pile and concrete manifold dolphin within the footprint of the existing pier; a modification to an existing steel pile and concrete dolphin to make it 24' square; and the installation of a 5' wide walkway extending an additional 220' beyond the pier's last dolphin to a new 24' square mooring dolphin.

3. Maintenance and improvement dredging will be performed in approximately 125-foot-wide areas on the east side of each pier. A total area of approximately 325,000 square feet at the two piers will be dredged by mechanical means to depths of approximately 37 to 40 feet below mean lower low water (MLLW) at the Sprague Terminal Pier and 38 to 43 feet below mean lower low water at Maine DOT's Bangor & Aroostook Railroad Pier. Approximately 73,000 cubic yards of silt, sand, gravel, and clay will be removed in two phases. In the first phase approximately 22,600 cubic yards of surficial material determined to be unsuitable for open water disposal will be dredged and disposed of at an upland, State approved disposal site. The areas from which this material will be dredged are shown on Sheets 4A and 4B of the Permit Drawings. At the Sprague Terminal Pier all material above Elevation -37.0 Feet MLLW in the area authorized to be dredged will be disposed of upland, as well as the material above Elevation -38.0 Feet MLLW in the 75-foot-wide by 400-foot-long rectangular area shown in the northwest corner of the area authorized to be dredged. At the Bangor & Aroostook Railroad Pier all material above Elevation -38.0 Feet MLLW in a 75-foot-wide strip along the entire length of the west side of the area authorized to be dredged (i.e., the area along the length of the pier) and in the entire width of the northernmost 100 feet of the area authorized to be dredged will be disposed of upland, as well as the material above Elevation -40.0 Feet MLLW in the 326-foot-long rectangular area shown at the south end of the 75-foot-wide strip referred to above. That is, all the material authorized to be dredged from this latter 75-foot by 326-foot area is to be disposed of upland. No material from this area will be disposed of in open water. In the second phase approximately 50,400 cubic yards of material will be dredged and disposed of at the Rockland Disposal Site. The areas from which this material will be dredged are shown on Sheets 4C and 4D of the Permit Drawings. At the

Project Description Continued on Page 5

Project Description Continued from Page 4

Sprague Terminal Pier this material consists of that authorized to be dredged below Elevation -38 Feet MLLW in the 75-foot-wide by 400-foot-long rectangular area shown in the northwest corner of the area authorized to be dredged, that is, the area referred to above. This area will be dredged to Elevation -40 Feet MLLW. This is the only material from the Sprague Terminal Pier that is authorized to be disposed of in open water. At the Bangor & Aroostook Railroad Pier the material authorized to be disposed of in open water consists of (1) that authorized to be dredged below Elevation -38 Feet MLLW in (a) a 75-foot-wide strip along the entire length of the west side of the area authorized to be dredged (i.e., the area along the length of the pier), except for the material in the southernmost 326 feet of this strip, and (b) the material in the entire width of the northernmost 100 feet of the area authorized to be dredged and (2) all the material in the rest of the area authorized to be dredged. This latter area will be dredged to Elevation -40 Feet MLLW, except that the 50-to 70-foot-wide by 180-foot-long area shown in the northwest corner of the area authorized to be dredged will be dredged to Elevation -43 Feet MLLW.

4. In support of the new terminal, up to 0.87 acres of freshwater wetland will be filled on site. The fill will help create a new cargo storage site. To meet State compensatory mitigation requirements, the permittees will restore, enhance and create approximately 1.07 acres of wetland on site as shown on the attached plans. Note that this Corps of Engineers permit authorizes this compensatory mitigation but does not include it as a separate requirement.

Special Conditions Continued from Page 2

contracts and sub-contracts for work which affects areas of Corps of Engineers' jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for the work. If the permit is issued after construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different unauthorized work in areas of Corps of Engineers jurisdiction. contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps of Engineers jurisdiction.

Conditions Continued on Page 6

Special Conditions Continued from Page 5

2. Adequate sedimentation and erosion control devices, such as geotextile silt fences or other devices capable of filtering the fines involved, shall be installed and properly maintained to minimize impacts during construction. These devices must be removed upon completion of work and stabilization of Special disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.

3. The permittee and his contractors shall conduct a preconstruction meeting with Corps, Maine Dept. of Environmental Protection and other appropriate resource agency staff prior to construction at the project site.

4. This permit authorizes impacts to only those areas of wetlands shown on the attached plans. No other filling, clearing or other disturbance in wetlands shall occur.

5. There shall be no disposal of material at the Rockland Disposal site from 16 April to December 31, inclusive, in order to minimize adverse impacts to Essential Fish Habitat, lobsters, and Atlantic salmon. There shall be no dredging of material scheduled for upland disposal from 1 November to 30 June, inclusive to protect the same resources and local water quality.

6. To minimize the area affected by dredging the unsuitable material, the permittee shall employ a dredge bucket such as the Cable Arm Bucket, that minimizes resuspension of materials, and shall install a floating boom with a silt curtain around the affected area.

7. Periodic maintenance dredging to the area and depth limits described herein is authorized for ten years from the date of issuance of this permit, **provided disposal of the dredged material is at an upland site.** However, the permittee must notify this office, in writing, 60 days before the intended date of any such dredging and shall not begin such dredging until written authorization has been obtained. This 60-day notification is not required for the initial new and/or maintenance dredging authorized by this permit. A separate authorization shall be required for such dredging if the material to be dredged is to be deposited in open or ocean waters and/or wetlands.

8. At least ten working days in advance of the start date, the First Coast Guard District, Aids to Navigation Office, 617-223-8356, shall be notified of the location and estimated duration of the dredging and disposal operations.

Special Conditions Continued on Page 7

Special Conditions Continued from Page 6

9. Every discharge of dredged material at the disposal site must be witnessed by an onboard inspector who has been trained by, and who holds a current certification from, the New England District of the Corps of Engineers. The disposal inspector shall be contracted and paid for by the permittee. A list of currently certified inspectors can be obtained from the New England District Regulatory Division at 978-318-8292.

10. For the initiation of disposal activity and any time disposal operations resume after having ceased for one month or more the permittee or the permittee's representative must notify the Corps' New England District at least ten working days before the date disposal operations are expected to begin or resume. Contact the Policy Analysis and Technical Support Branch at 978-318-8292. The information to be provided in this notification is: permit number, permittee name, name and address of dredging contractor, estimated dates dredging is expected to begin and end, name of disposal inspector, name of the disposal site and estimated volume of material to be dredged. Disposal operations shall not begin or resume until the Policy Analysis and Technical Support Branch issues a letter authorizing the initiation or continuation of open-water disposal. The letter will include disposal-point coordinates to use for this specific project at that time. These coordinates may differ from those specified for other projects using the same disposal site or even from those specified earlier for this project. It is not necessary to wait ten days before starting disposal operations. They may start as soon as this letter is issued.

11. The permittee shall ensure that a separate Corps of Engineers disposal inspection report (scow log) is fully completed by the inspector for every trip to the disposal site and that this report is received by the Corps' New England District within one week of the trip date. The Regulatory Division telefax number is 978-318-8303. The original of this report must be mailed to: U.S. Army Corps of Engineers, Regulatory Division, Policy Analysis and Technical Support Branch, 696 Virginia Road, Concord, MA 01742-2751. For each dredging season during which work is performed the permittee must notify the Corps upon completion of dredging for the season by completing and submitting the form that the Corps will supply for this purpose when disposal-point coordinates are specified.

12. Except when directed otherwise by the Corps' DAMOS Program Manager for site management purposes, all disposal of dredged material shall adhere to the following: The permittee shall release the dredged material at a specified

Special Conditions Continued on Page 8

Special Conditions Continued from Page 7

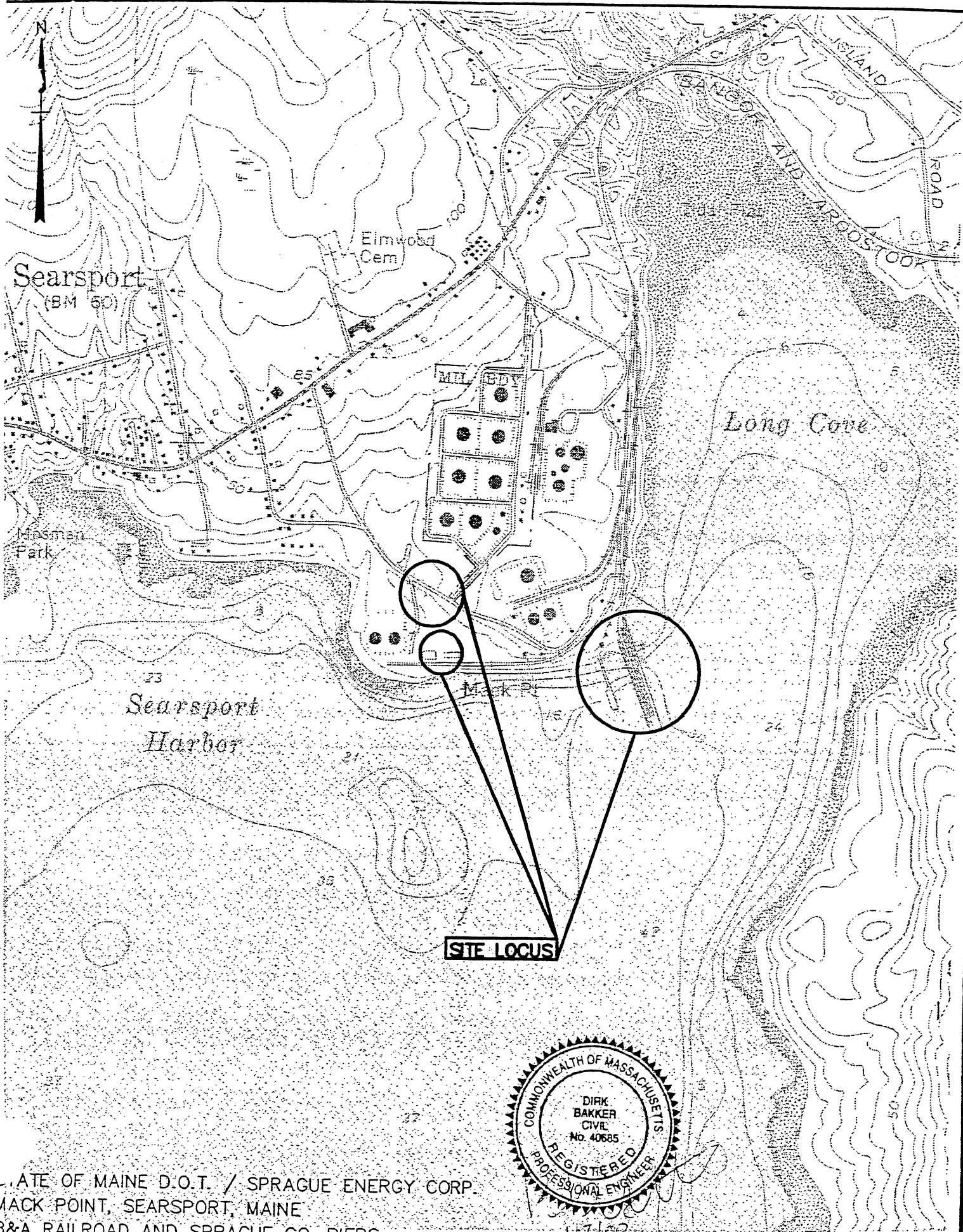
buoy or set of coordinates within the disposal site. All disposal is to occur at the buoy or specified coordinates with the scow at a complete halt. This requirement must be followed except when doing so will create unsafe conditions because of weather or sea state, in which case disposal within **100** feet of the buoy or specified coordinates with the scow moving only fast enough to maintain safe control (generally less than one knot) is permitted. Disposal is not permitted if these requirements cannot be met due to weather or sea conditions. In that regard, special attention needs to be given to predicted conditions prior to departing for the disposal site.

13. The Coast Guard Marine Safety Office, Portland, 207-780-3251, shall be notified prior to the start of this project.

14. For the upland disposal of dredged material, the scheduling of dredging and dewatering shall be such that the capacity of the dewatering/containment area shall not be exceeded under any circumstances.

~~15. No dredging shall be done until all pier demolition, rehabilitation and construction has been completed in order to ensure that any material that moves from under the existing piers into the area authorized to be dredged is removed and disposed of at an upland rather than an open-water site.~~

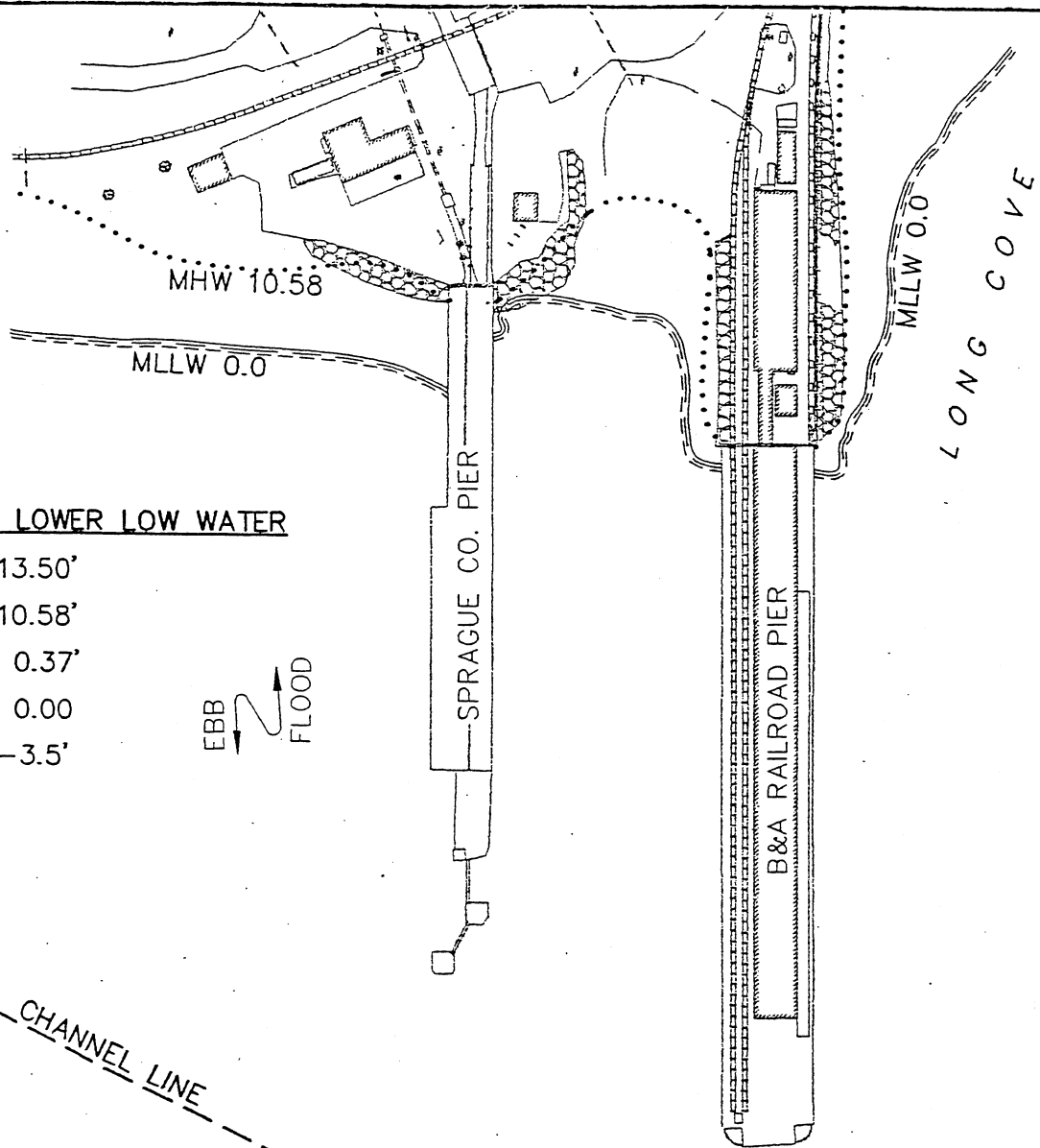
see Appendix



STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 TAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

JANUARY 17, 2000

SHEET 1 OF 13



DATUM MEAN LOWER LOW WATER

EHW - 13.50'
MHW - 10.58'
MLW - 0.37'
MLLW - 0.00
ELW - -3.5'



CHANNEL LINE
N 225008.38
E 395464.26

APPROACH TUNNEL AND
TURNING BASIN

PLAN OF EXISTING SITE

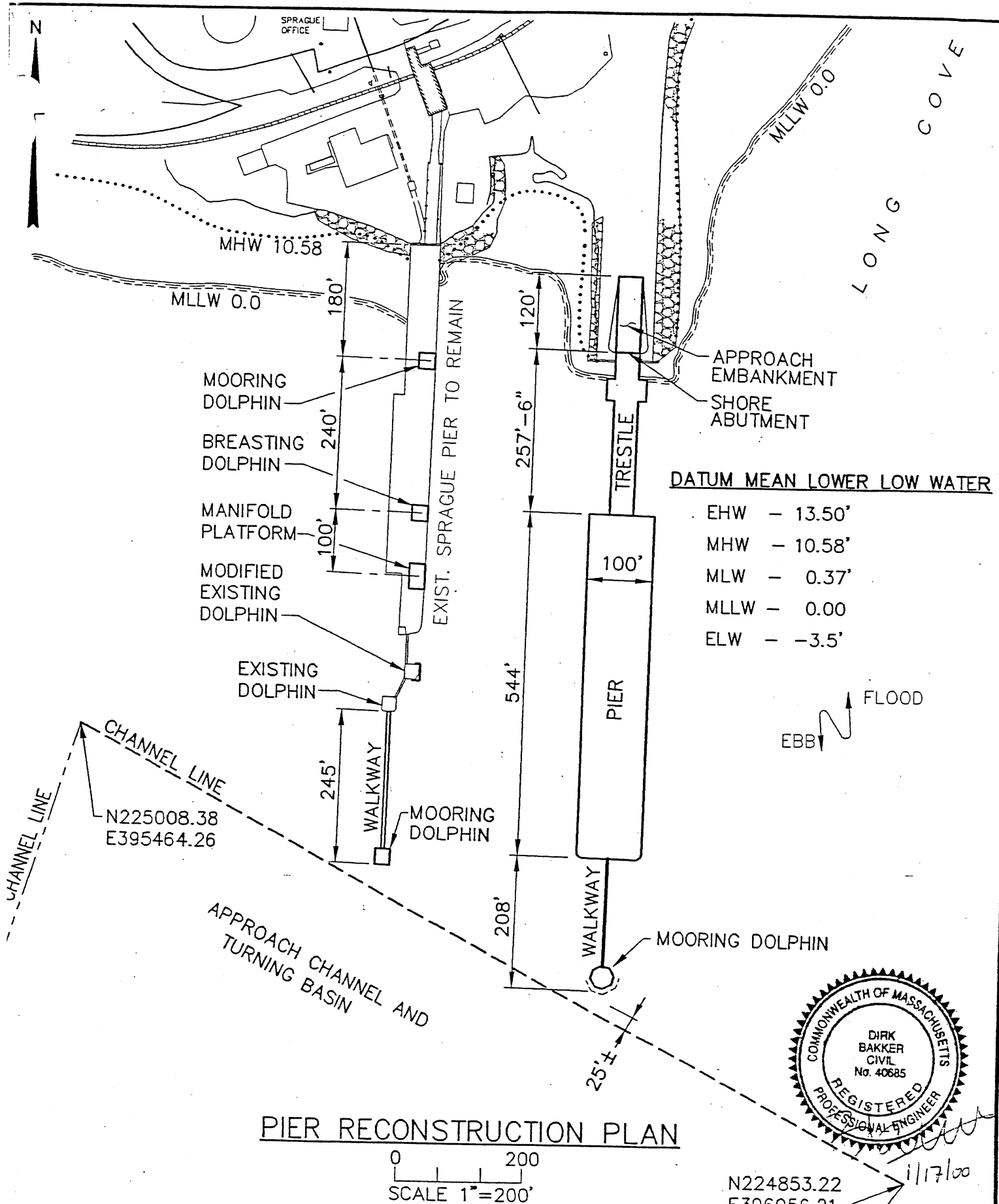
0 200
SCALE 1"=200'

TE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
MACK POINT, SEARSPORT, MAINE
B&A RAILROAD AND SPRAGUE CO. PIERS
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
BURLINGTON, MASS.



JANUARY 17, 2000

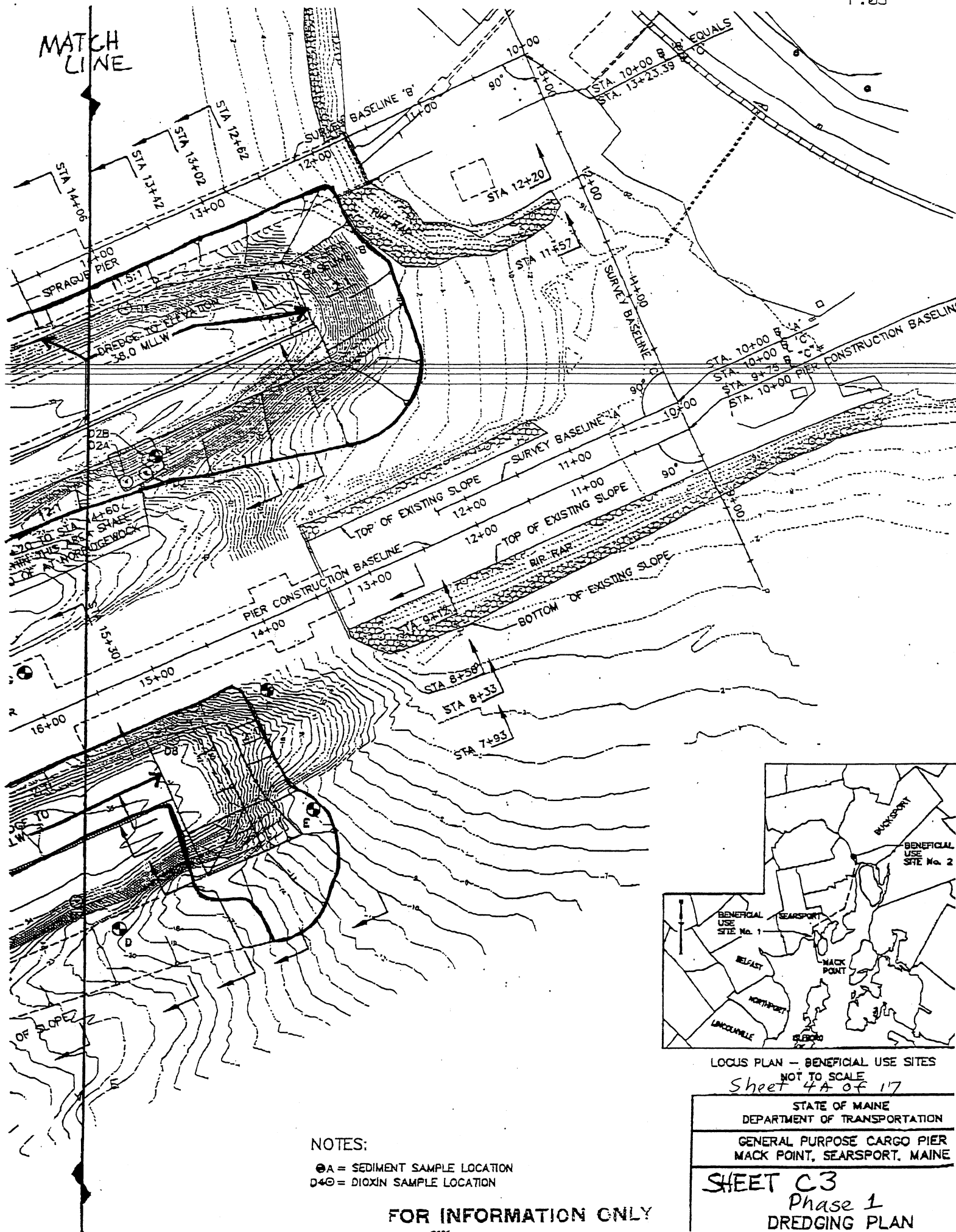
SHEET 2 OF 17



STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 DAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

JANUARY 17 2000

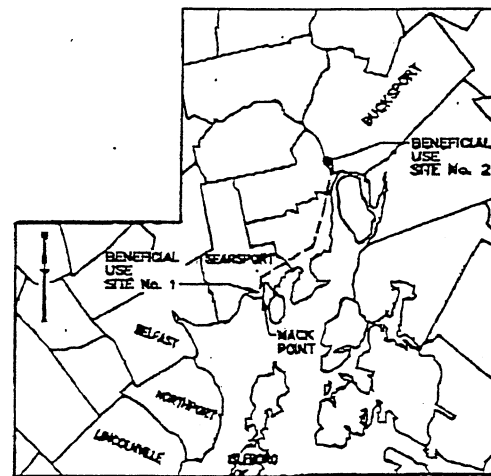
SHEET 3 OF 7



NOTES:

- A = SEDIMENT SAMPLE LOCATION
- D40 = DIOXIN SAMPLE LOCATION

FOR INFORMATION ONLY

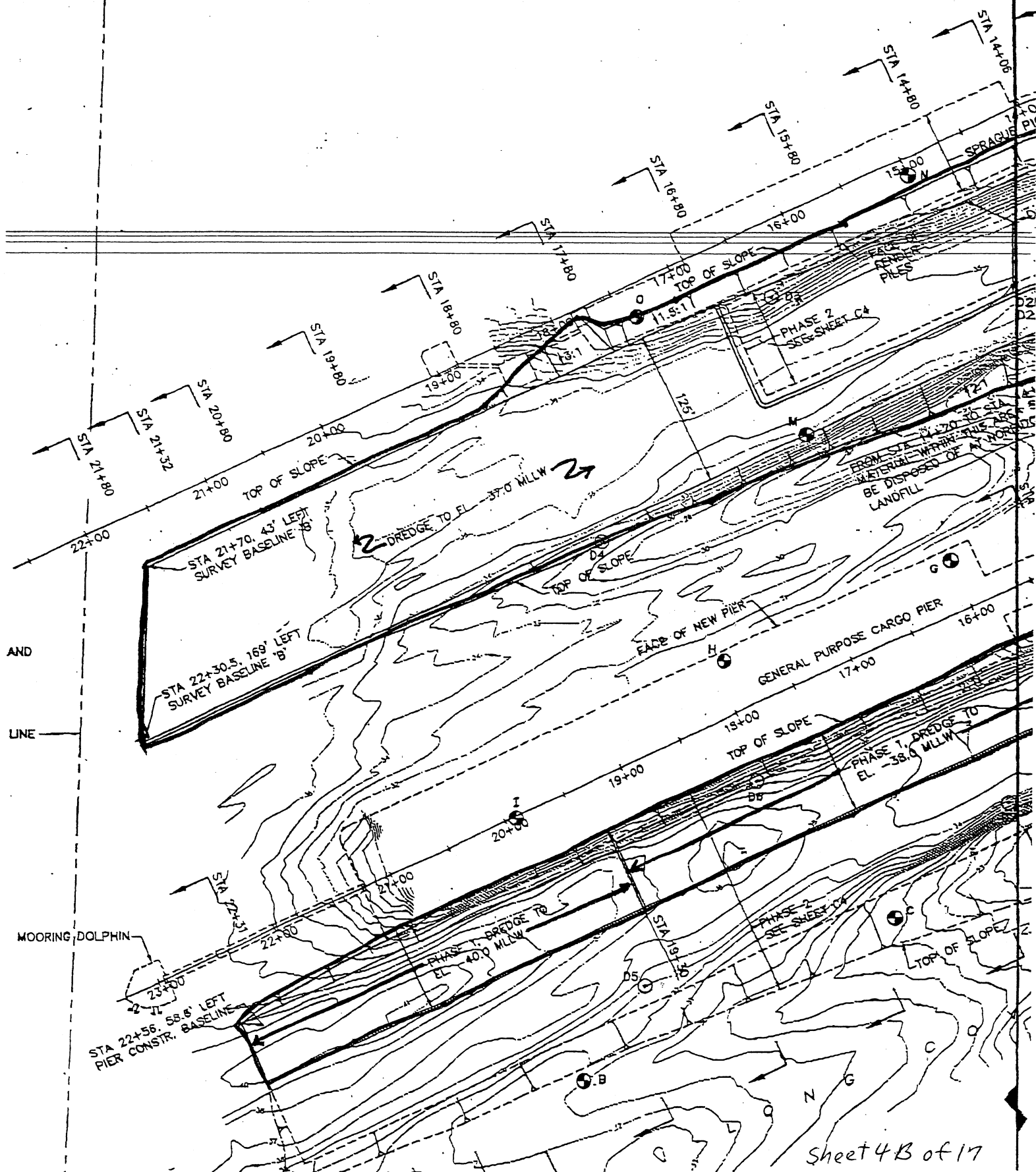


LOCUS PLAN - BENEFICIAL USE SITES
NOT TO SCALE
Sheet 4A of 17

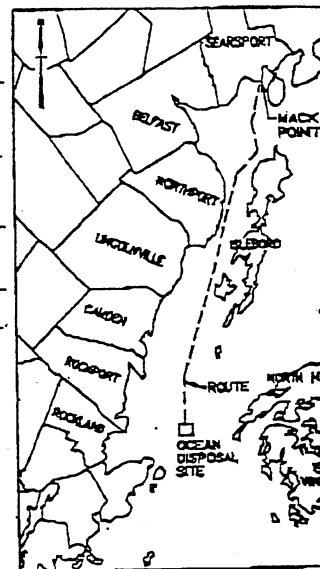
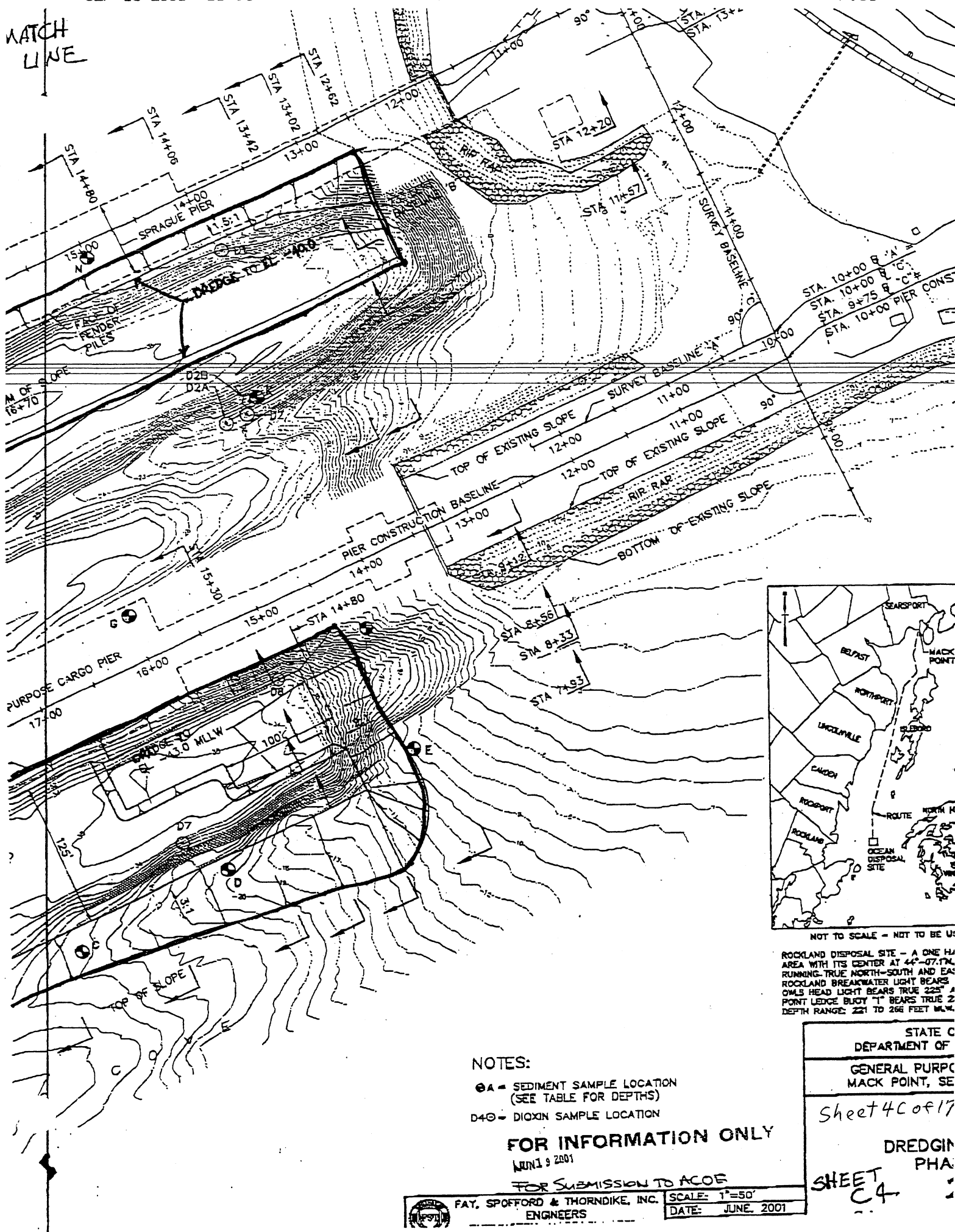
STATE OF MAINE DEPARTMENT OF TRANSPORTATION
GENERAL PURPOSE CARGO PIER MACK POINT, SEARSPORT, MAINE
SHEET C3 Phase 1 DREDGING PLAN

SHEET C3

MATCH
LINE



WATCH
LINE



NOT TO SCALE - NOT TO BE USED

ROCKLAND DISPOSAL SITE - A ONE HJ AREA WITH ITS CENTER AT 44°-07.1'N, 70°-07.1'W, RUNNING TRUE NORTH-SOUTH AND EAST. ROCKLAND BREAKWATER LIGHT BEARS TRUE 225° 1' OWLS HEAD LIGHT BEARS TRUE 225° 1' POINT LEDGE BUOY "1" BEARS TRUE 225° 1' DEPTH RANGE: 221 TO 266 FEET MLLW.

NOTES:

- ⊙ A - SEDIMENT SAMPLE LOCATION (SEE TABLE FOR DEPTHS)
- D40 - DIOXIN SAMPLE LOCATION

FOR INFORMATION ONLY

JUN 19 2001

FOR SUBMISSION TO ACOE



FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS

SCALE: 1"=50'
DATE: JUNE, 2001

STATE OF
DEPARTMENT OF

GENERAL PURPOSE
MACK POINT, SE

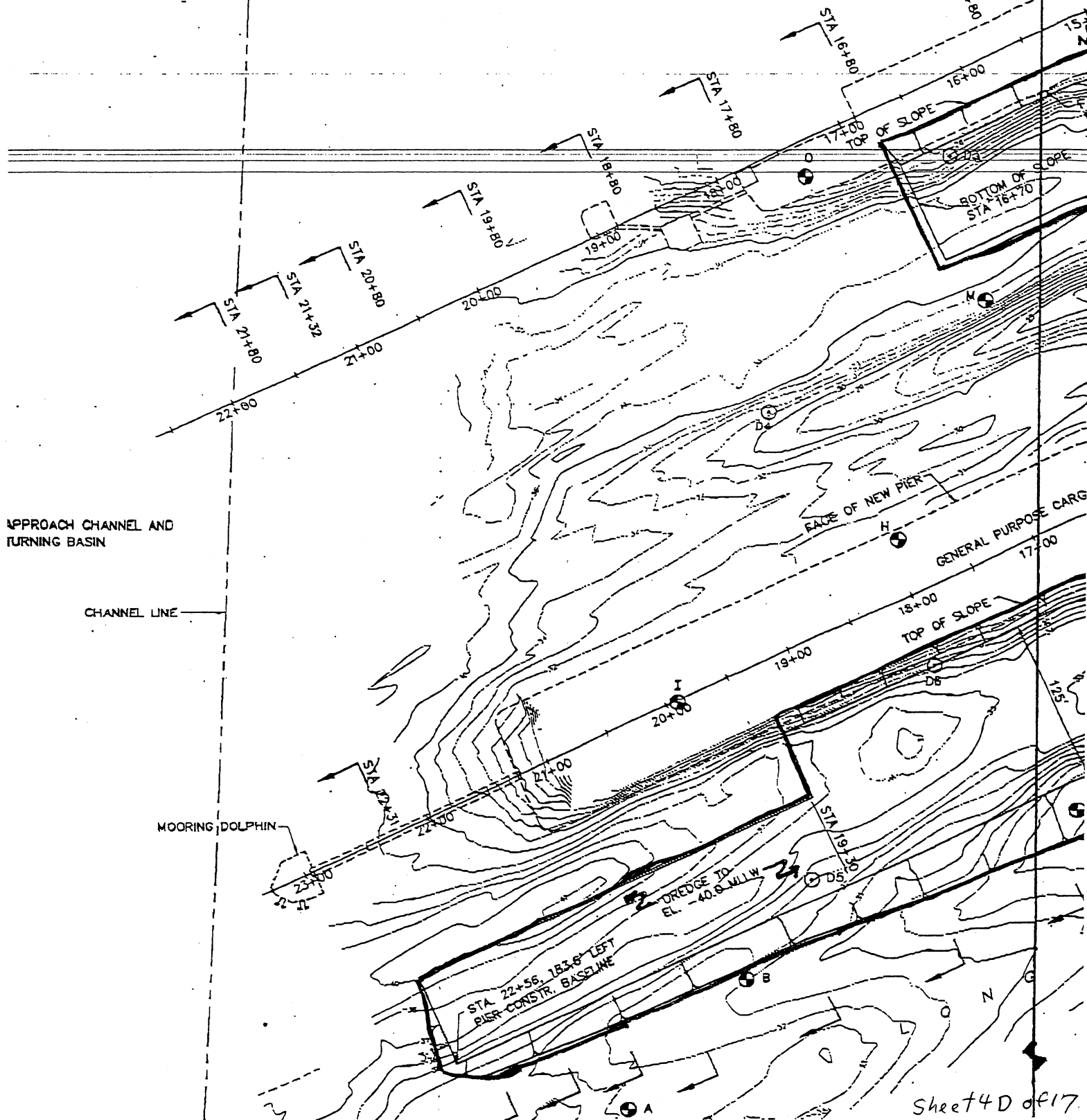
Sheet 4C of 17

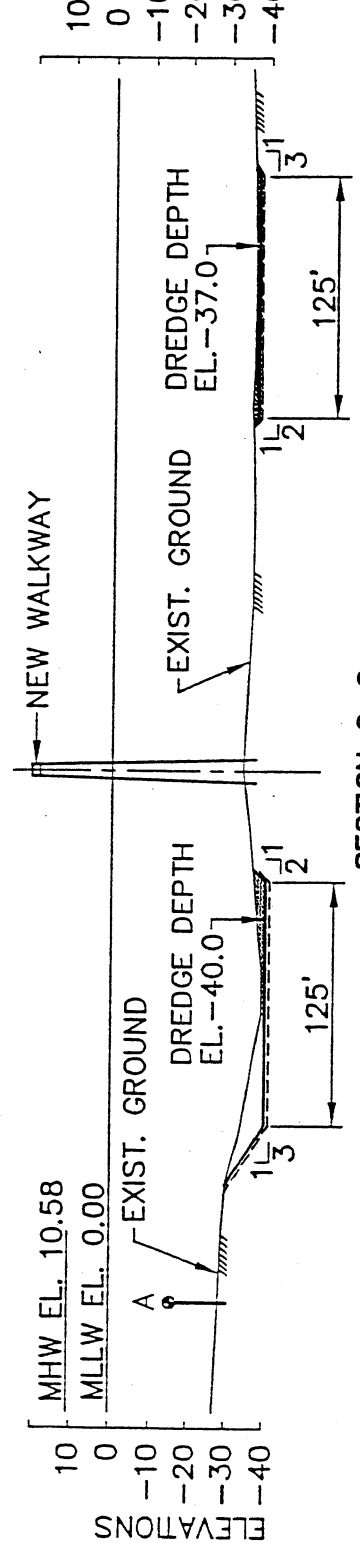
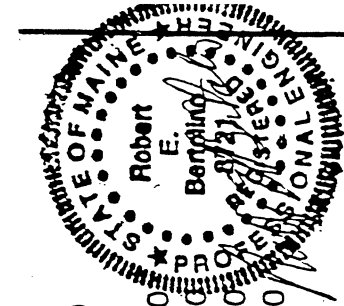
DREDGING
PHASE

SHEET
C4

SHEET
C4

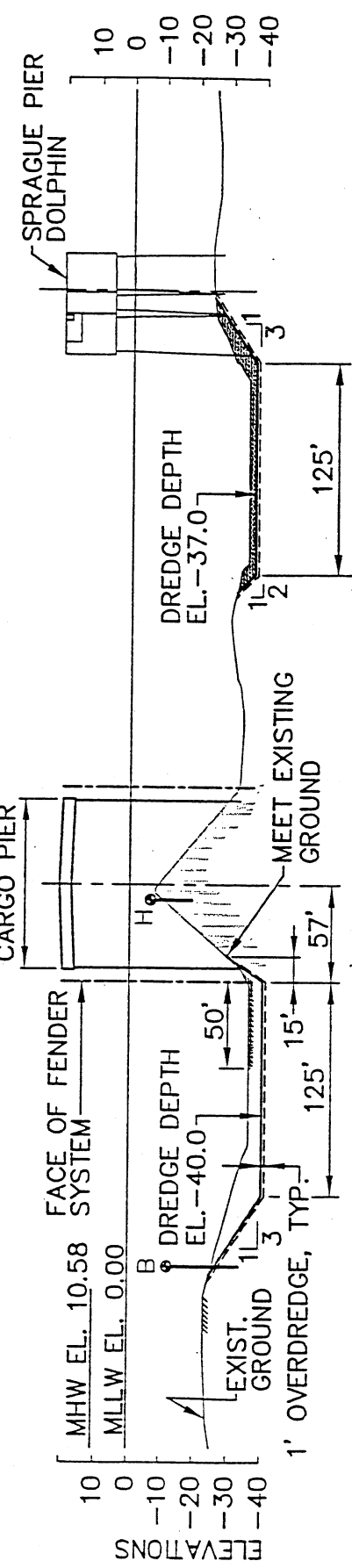
MATCH
LINE





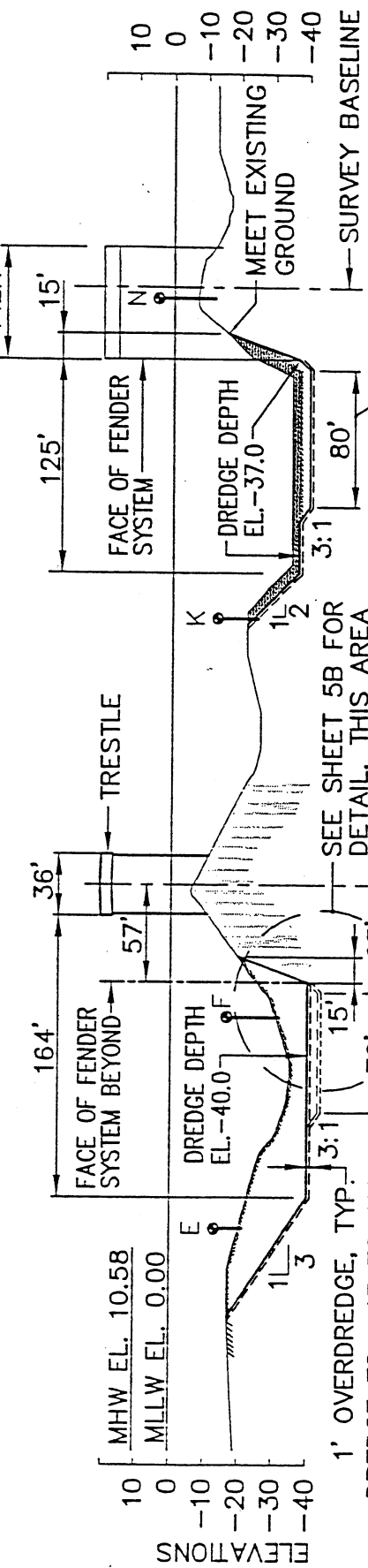
SECTION C-C

GENERAL PURPOSE
CARGO PIER



SECTION B-B

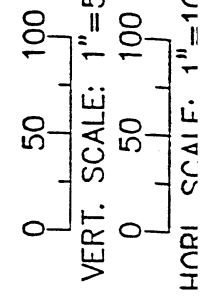
SPRAGUE PIER



SECTION A-A

DREDGE TO -40 TO ALLOW
FOR SLOUGHING FROM
BELOW PIER AND MAINTAIN
DEPTH OF BERTH AT -37.0

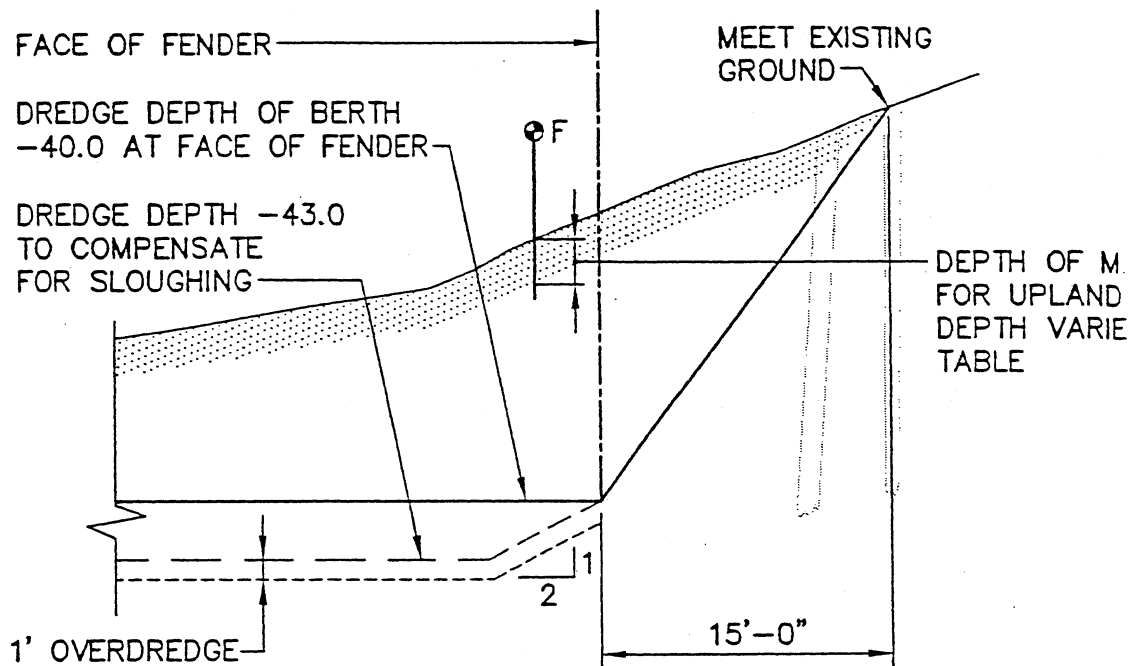
1' OVERDREDGE, TYP.
DREDGE TO -43 TO ALLOW
FOR SLOUGHING FROM
BELOW PIER AND MAINTAIN
DEPTH OF BERTH AT -37.0



STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
MACK POINT, SEARSPORT, MAINE
B&A RAILROAD AND SPRAGUE CO. PIERS
FAY, SPOFFORD & THORNDIKE, INC.
BURLINGTON, MASS.

NOTE

MATERIAL FOR UPLAND
DISPOSAL SHOWN THUS:



DETAIL
SCALE: 1"=10'

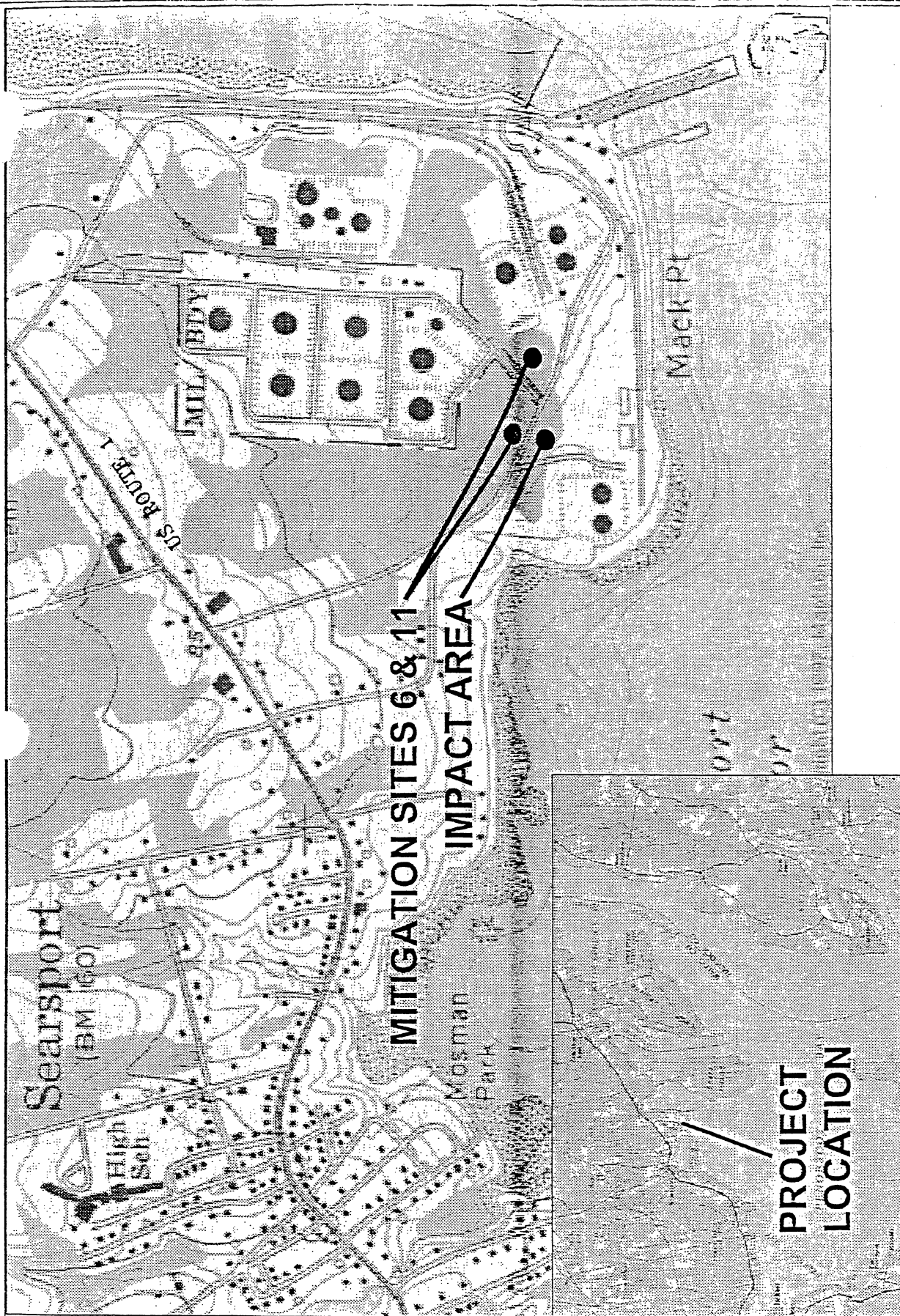
LEGEND


Ae SEDIMENT SAMPLE W/DESIGNATION

DEPTH OF SEDIMENT	
SAMPLE	DEPTH
A	1-2 FT
B	1-2 FT
C	1-2 FT
D	1-2 FT
E	1 FT
F	1 FT
G	5.3 FT
H	8.5 FT
I	20 FT
K	3 FT
M	3 FT
N	5 FT
O	5 FT

SAMPLE DEPTHS AND LOCATIONS FROM
"MACK POINT REDEVELOPMENT SEDIMENT
CHARACTERIZATION, PROPOSED DREDGE
AREA", PREPARED BY NORMANDEAU
ASSOCIATES, INC. , MARCH 1999. REPT
IS INCLUDED AS EXHIBIT 15 (NRPA).





<p>FIGURE 1-1: Project Location Map</p>	<p>Sprague Energy Site Mack Pt., Searsport, ME</p>
<p>APPLICANT:</p>	<p>MAINE DEPARTMENT of / Sprague TRANSPORTATION - Energy</p>
<p>PREPARED BY:</p>	<p> NORMANDEAU ASSOCIATES INC. ENVIRONMENTAL CONSULTANTS 251 Main Street Yarmouth, Maine 04096</p>
	<p>DEC. 21, 1999</p>

WETLAND 6, 9, AND 11 - LOCATION MAP

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
MACK POINT, SEARSPORT, MAINE
3&A RAILROAD AND SPRAGUE CO. PIERS
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
BURLINGTON, MASS.

JANUARY 17, 2000

SHEET 7 OF 17

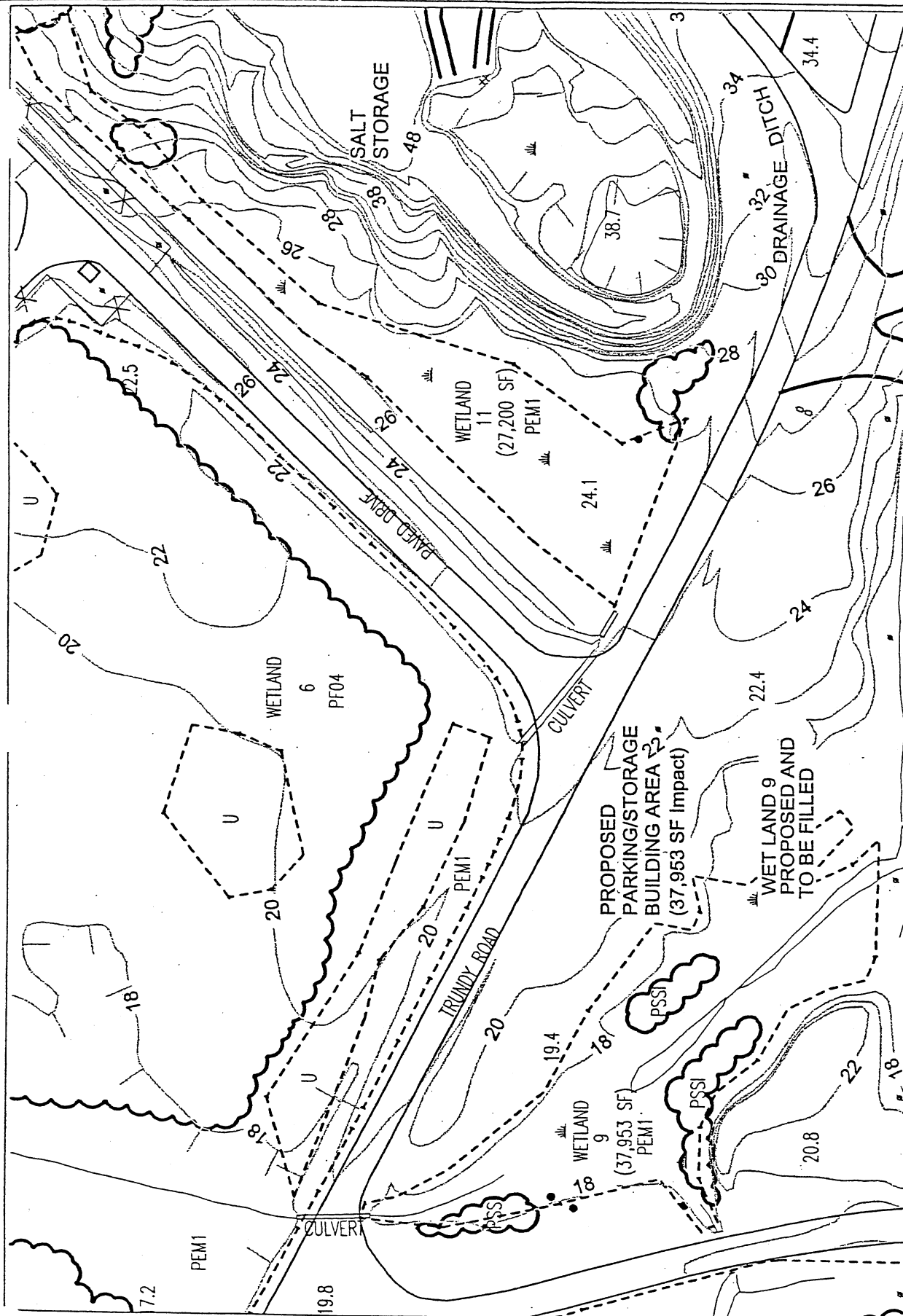
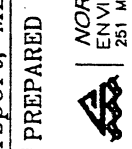


FIGURE 3-1: Proposed Wetland Fill Area and Existing Conditions

APPLICANT: MAINE DEPARTMENT of Transportation

PREPARED BY: Sprague Energy Site Mack Pt., Searsport, ME

NORMANDEAU ASSOCIATES INC. ENVIRONMENTAL CONSULTANTS 251 Main Street Yarmouth, Maine 04096



DEC. 21, 1999

WETLAND 6, 9 AND 11 - EXISTING CONDITIONS

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

0 100
 SCALE 1"=100'

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

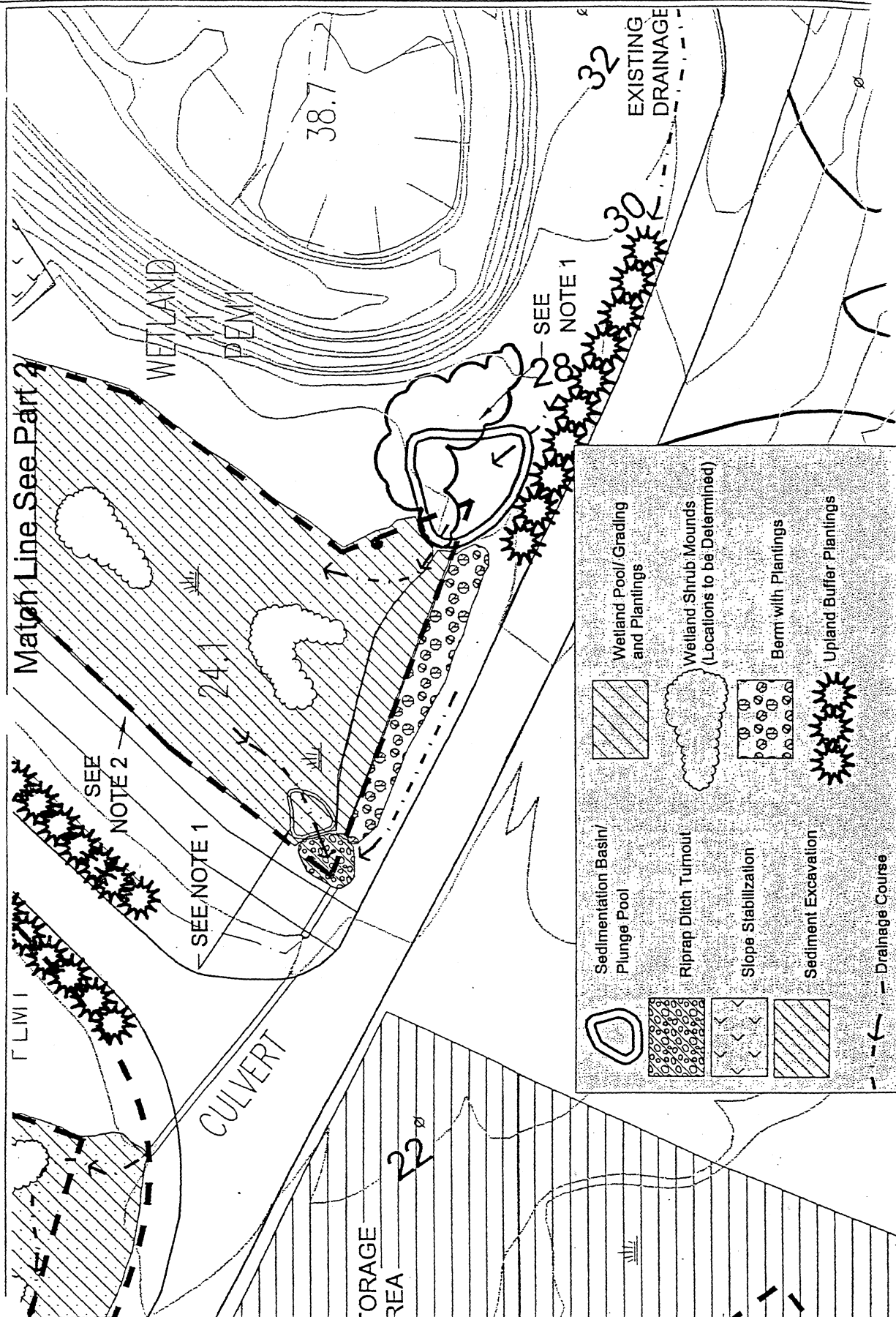
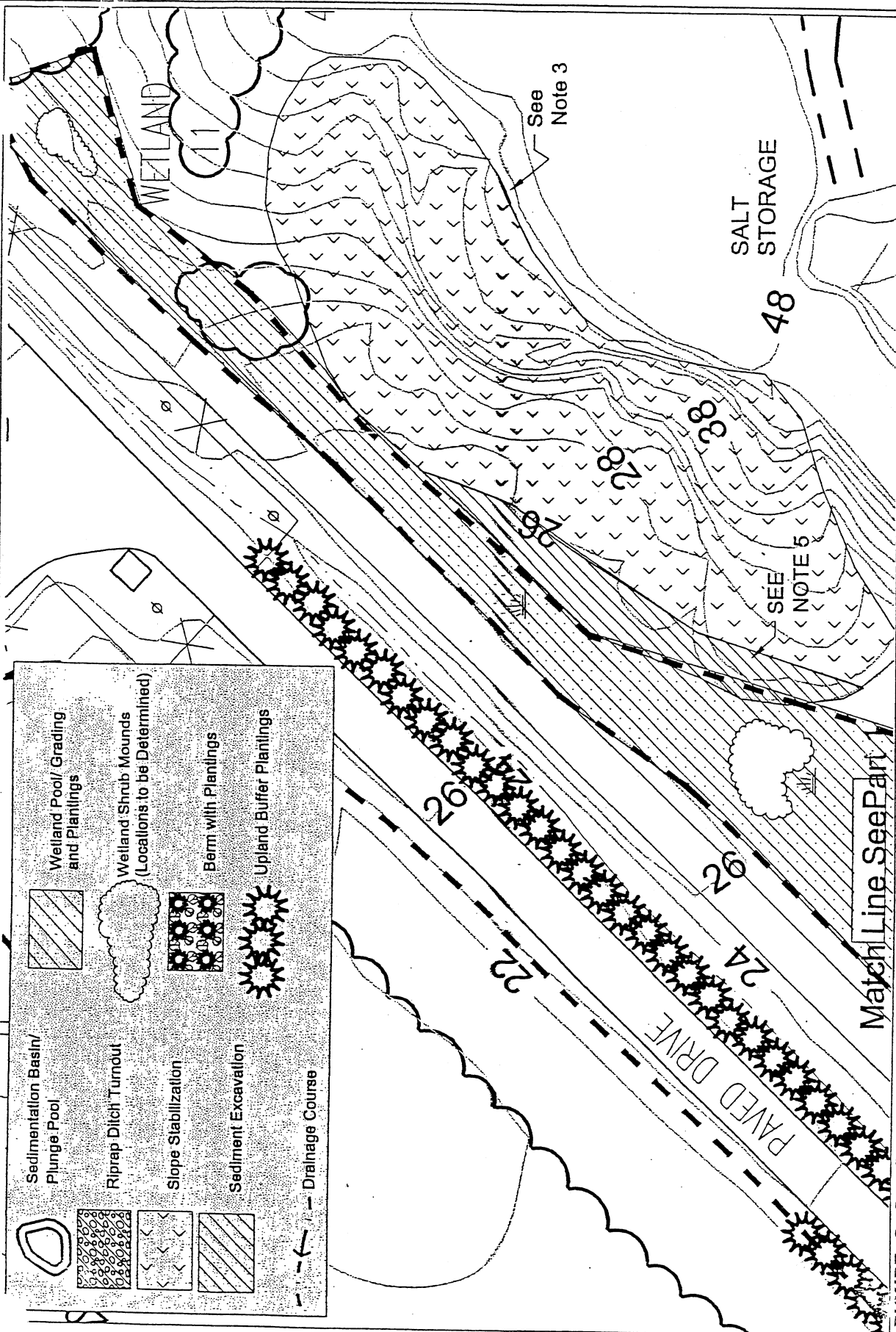


FIGURE 3-2: Proposed Wetland 11 Mitigation

WETLAND 6 AND 11 - MITIGATION PLAN -

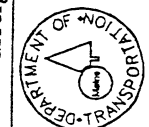
0 100
 SCALE: 1" = 100'



NORMANDEAU ASSOCIATES INC.
ENVIRONMENTAL CONSULTANTS
251 Main Street Yarmouth, Maine 04095

PREPARED BY:

MAINE DEPARTMENT of Transportation
Sprague Energy



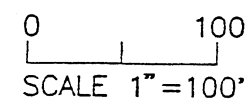
APPLICANT:

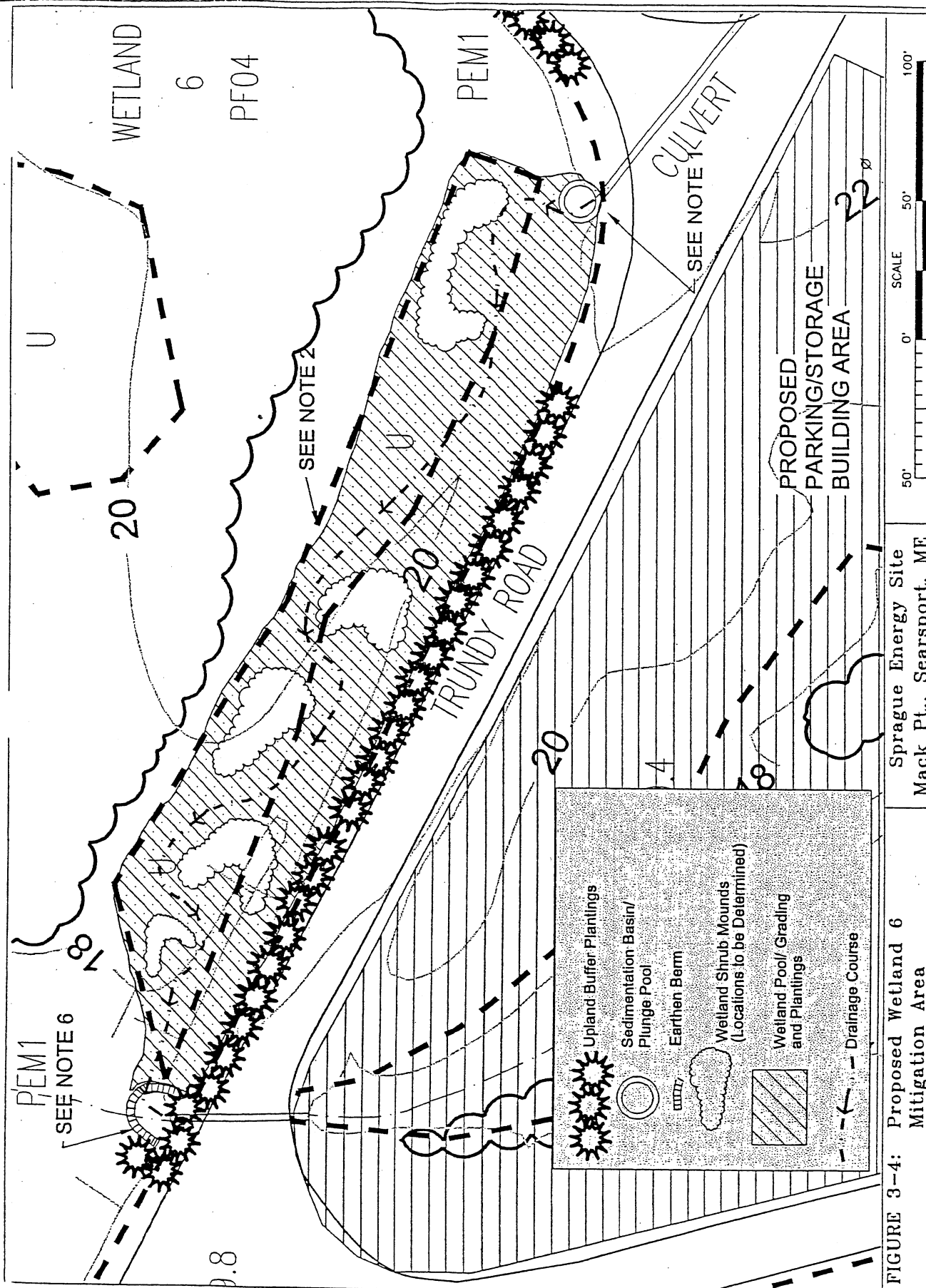
FIGURE 3-3: Proposed Wetland 11 Mitigation Area - North Sprague Energy Site Mack Pt., Searsport, ME

DEC. 21, 1999

WETLAND 6 AND 11 - MITIGATION PLAN - PART 2

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
MACK POINT, SEARSPORT, MAINE
B&A RAILROAD AND SPRAGUE CO. PIERS
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS





Sprague Energy Site
Mack Pt., Searsport, ME

PREPARED BY:

NORMANDEAU ASSOCIATES INC.
ENVIRONMENTAL CONSULTANTS
251 Main Street Yarmouth, Maine 04096

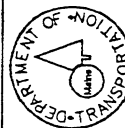


DEC. 21, 1999

FIGURE 3-4: Proposed Wetland 6
Mitigation Area

MAINE DEPARTMENT of Sprague
TRANSPORTATION Energy

APPLICANT:



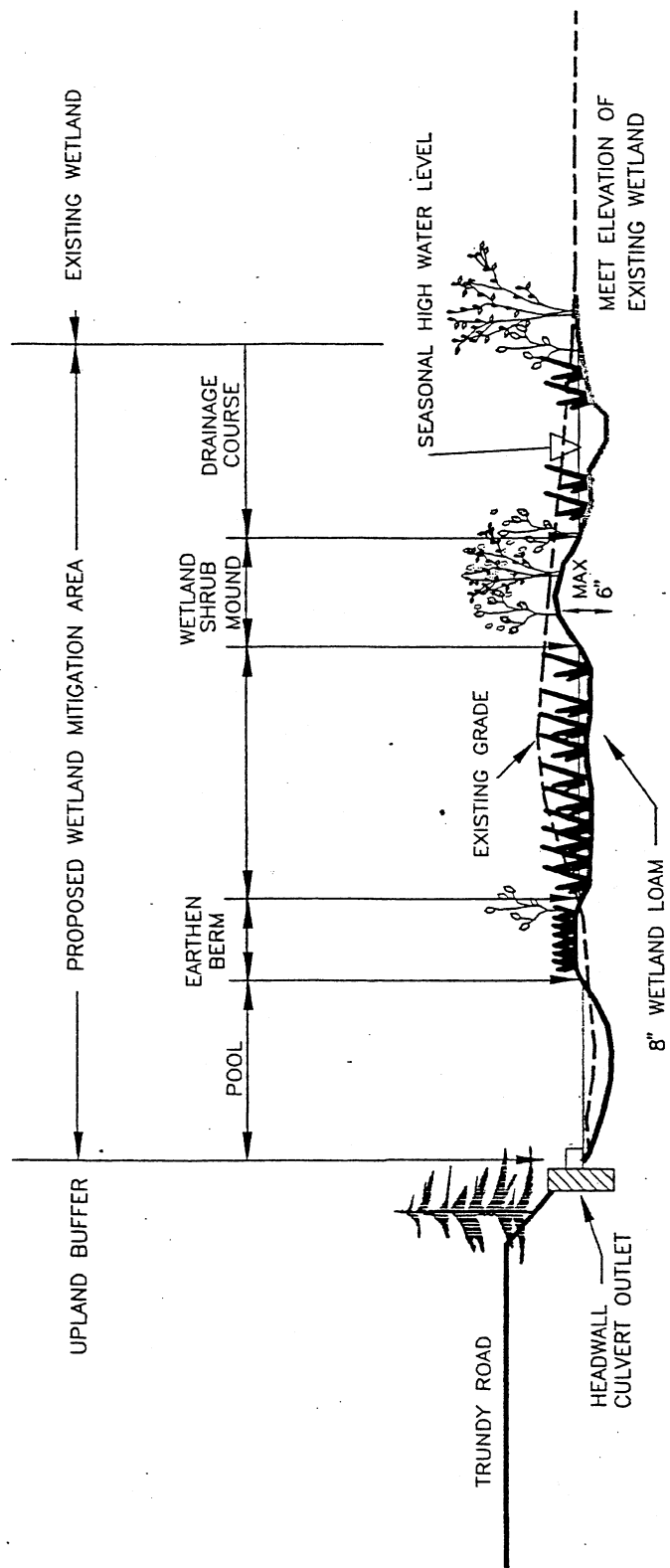
WETLAND 6 AND 11 - MITIGATION PLAN - PART 3

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
MACK POINT, SEARSPORT, MAINE
3&A RAILROAD AND SPRAGUE CO. PIERS
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
BURLINGTON, MASS.

0 100
SCALE 1"=100'

JANUARY 17, 2000

SHEET 11 OF 17



TYPICAL SECTION

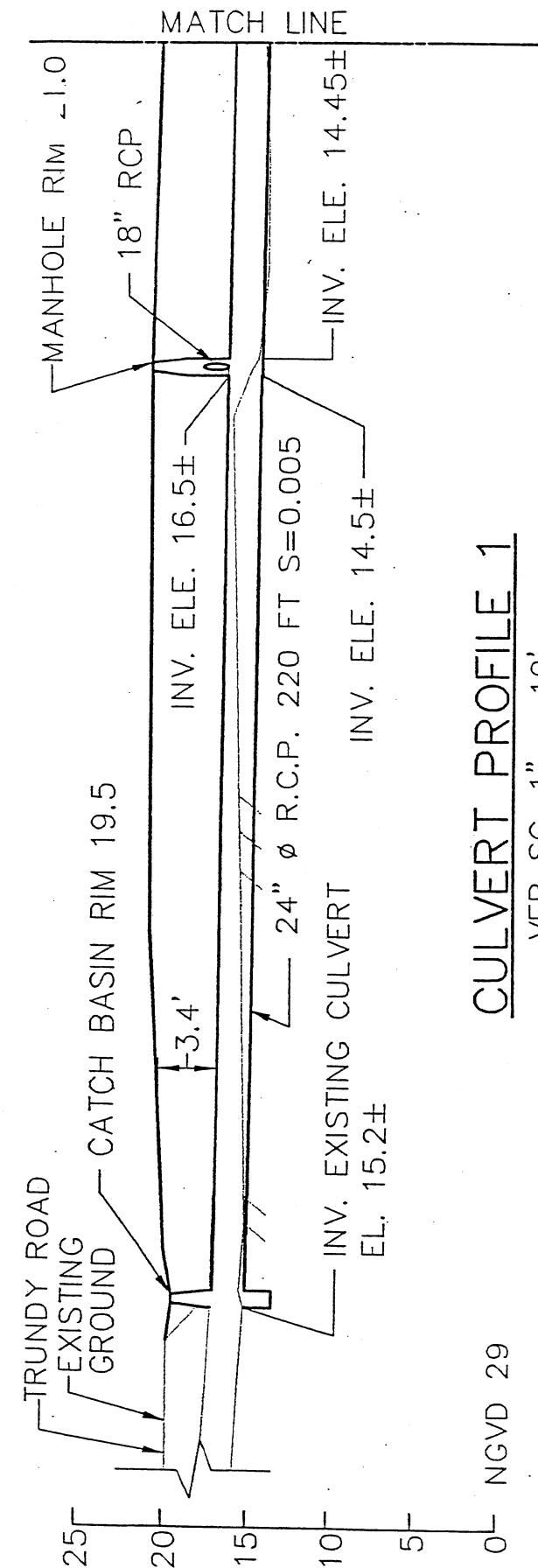
<p>FIGURE 3-5: Proposed Wetland 6 Typical Section</p>	<p>Sprague Energy Site Mack Pt., Searsport, ME</p>	<p>MAINE DEPARTMENT of TRANSPORTATION / Energy</p> <p>PREPARED BY: NORMANDEAU ASSOCIATES INC. ENVIRONMENTAL CONSULTANTS 251 Main Street Yarmouth, Maine 04096</p> <p>DEC. 21, 1999</p>
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WETLAND 6 AND 11 — MITIGATION PLAN — TYPICAL SECTION

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

0 100
 SCALE 1"=100'

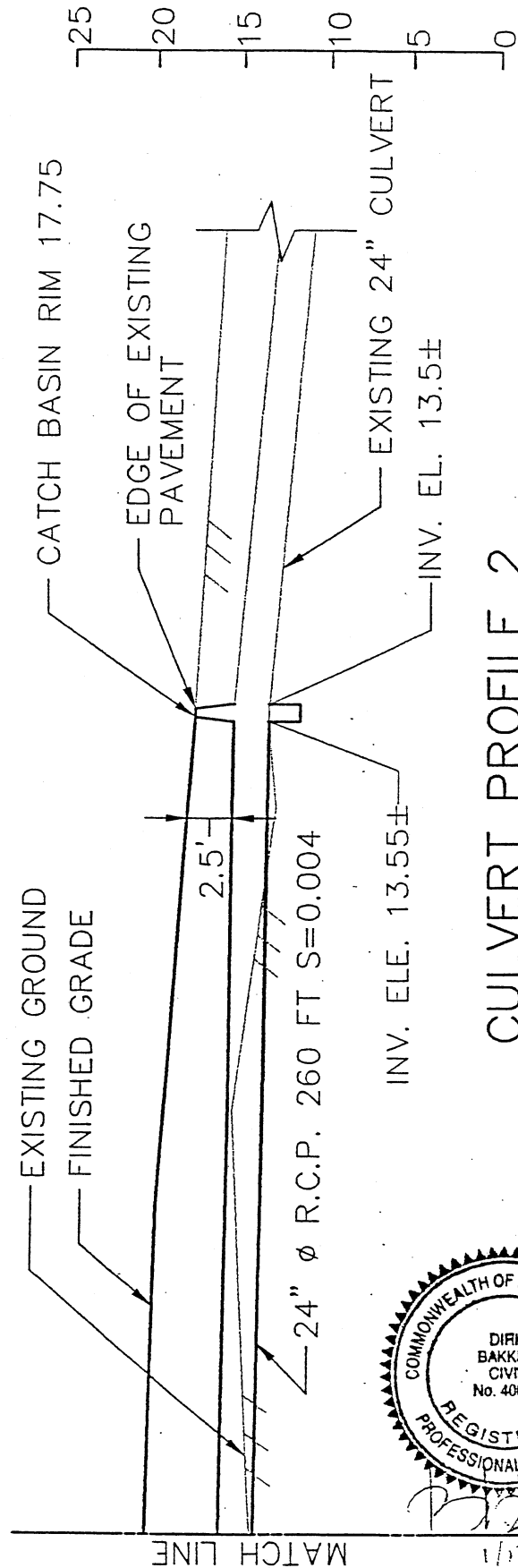


CULVERT PROFILE 1

VER SC. 1" = 10'

HOR SC. 1" = 40'

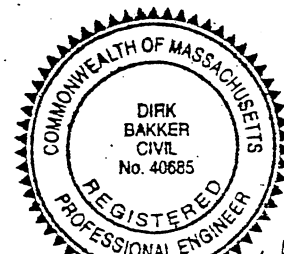
NGVD 29



CULVERT PROFILE 2

VER SC. 1" = 10'

HOR SC. 1" = 40'



1/7/00

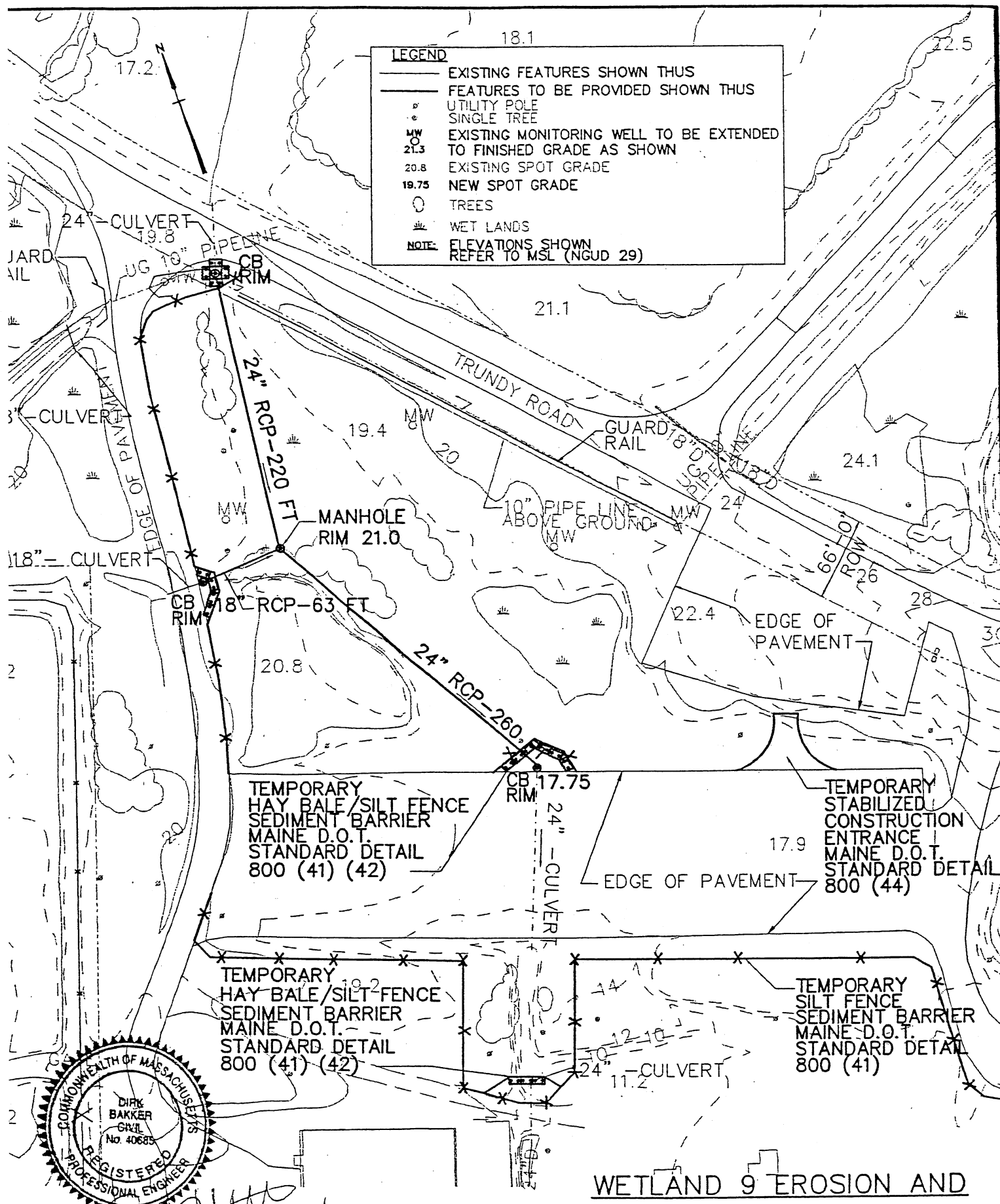
STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

WETLAND 9 - CULVERT

0 40
 SCALE 1"=40'

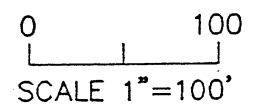
JANUARY 17, 2000

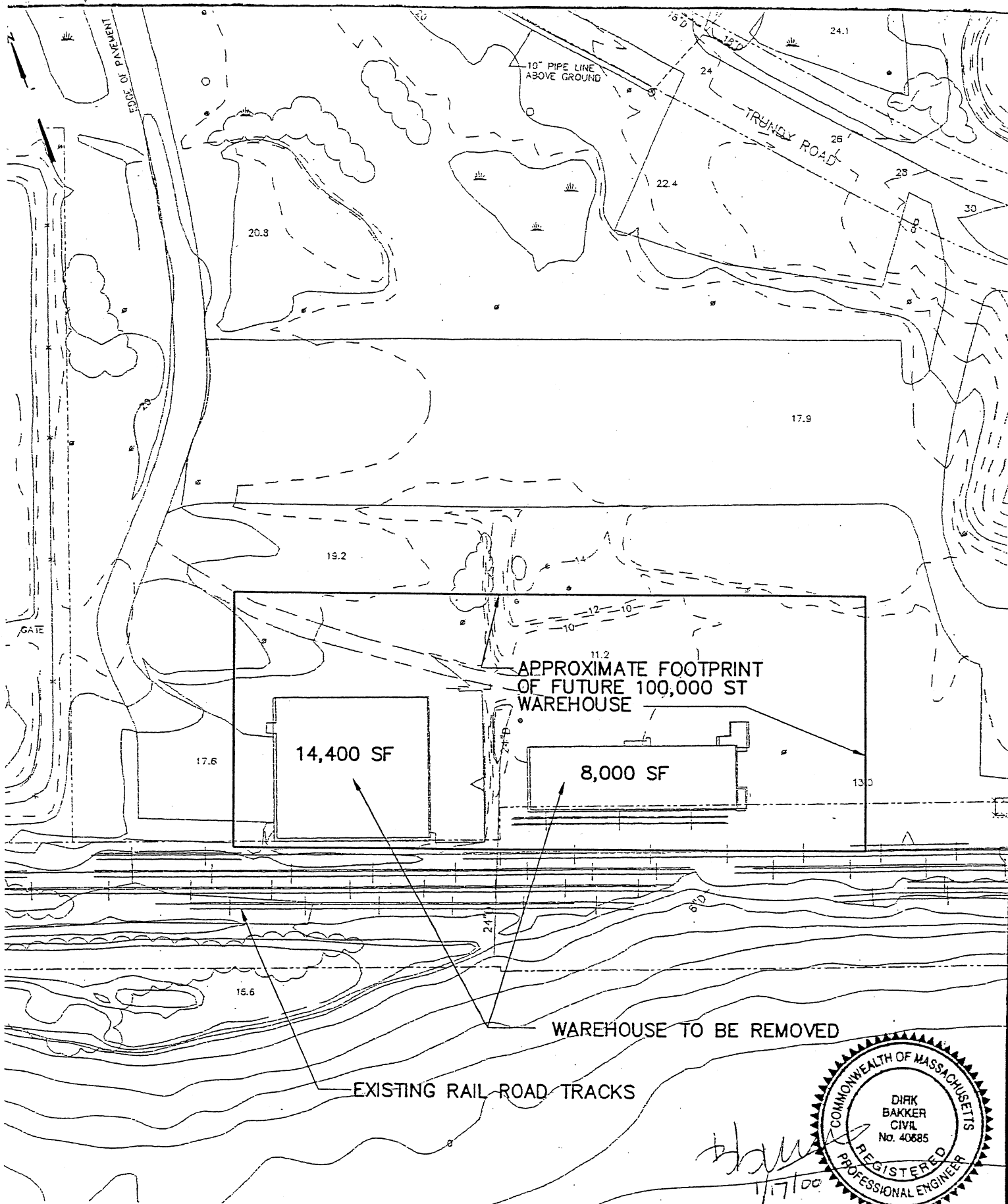
SHEET 14 OF 17



WETLAND 9 EROSION AND SEDIMENTATION CONTROL PLAN

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 JACK POINT, SEARSPORT, MAINE
 3&A RAILROAD AND SPRAGUE CO. PIERS
 TAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.





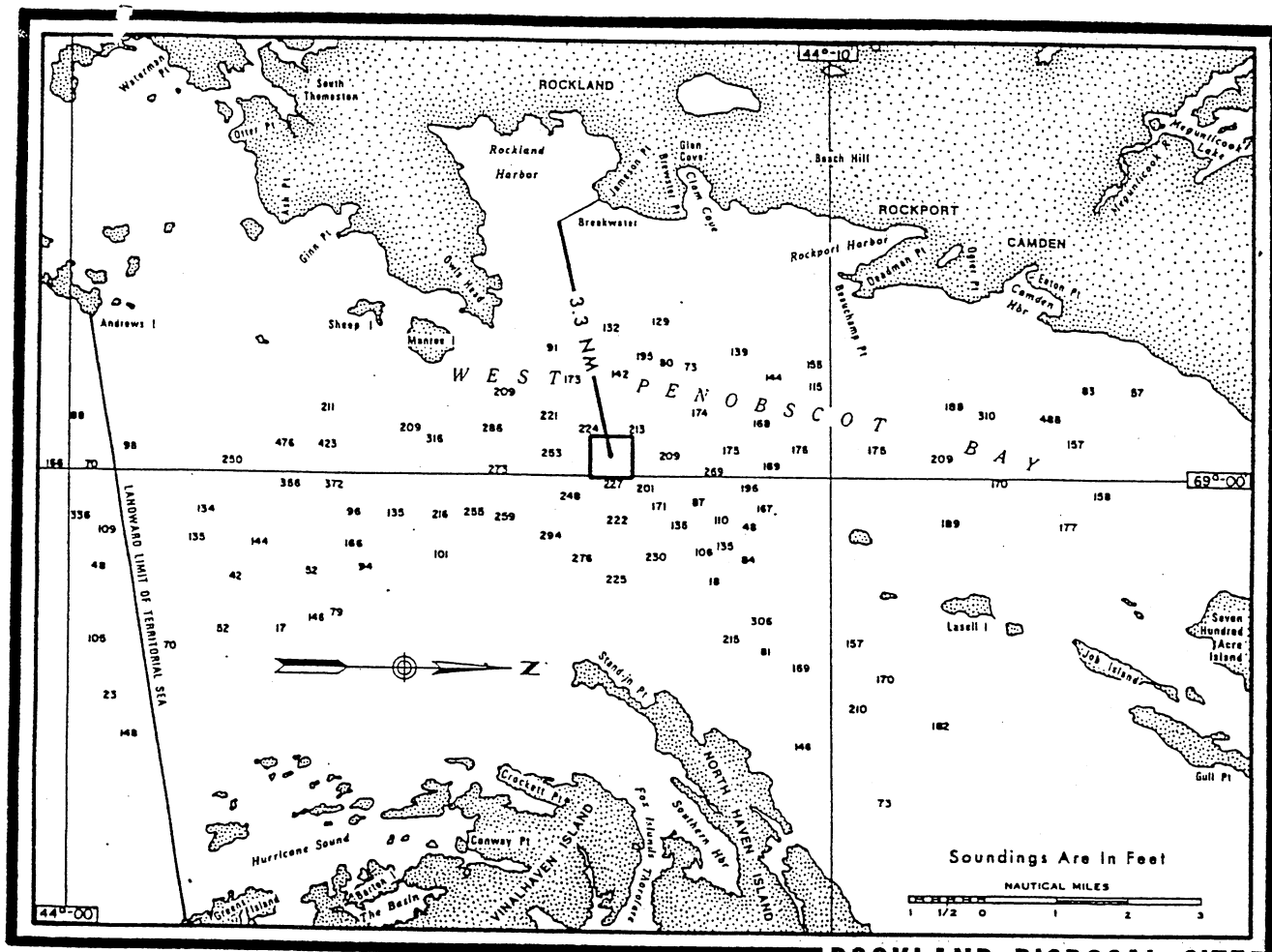
WAREHOUSE - SCHEMATIC PLAN

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 JACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 DAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

0 100
 SCALE 1"=100'

JANUARY 17, 2000

SHEET 11 OF 17



Description: A 1/2-nautical-mile-square area with center at 44°-07.1'N, 69°-00.3'W and sides running true north-south, east-west. From the center, Rockland Breakwater Light bears true 253° at 6,680 yards, Owls Head Light bears true 225° at 4,800 yards, and Brewster Point Ledge Buoy "1" bears true 284° at 5,870 yards. Depth Range: 221 to 266 feet MLW. The authorized disposal point (within the overall disposal area) is specified for each dredging project in other project documents. NOTE: The map depicts the site's location in relation to landmarks. It is not intended for use in navigation.

STATE OF MAINE D.O.T. / SPRAGUE ENERGY CORP.
 MACK POINT, SEARSPORT, MAINE
 B&A RAILROAD AND SPRAGUE CO. PIERS
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS
 BURLINGTON, MASS.

TRUNDY ROAD
RECONSTRUCTION PROJECT
SEARSPORT – WALDO COUNTY
PIN 008188.01

SECTION 2

SPECIAL PROVISION
SECTION 104
SITE COORDINATION/PRIORITY OF WORK

104.01 Description: The Mack Point Terminal site is a unique transportation facility and has several special requirements that must be met in order to successfully complete the project. Continued uninterrupted operation of the facility is extremely important for all modes of transportation. Along with operations, security at this facility is also essential, due to the types of cargo handled. In order to properly maintain access and operations at the facility, the contractor will need to submit a detailed Traffic Control Plan and an Access Plan that carefully considers these activities.

The following outlines the requirements for completing work and access to the terminal facility:

1. **Staging/Parking** – Due to limited space within the right of way and adjacent wetlands, the contractor will need to make arrangements with the local municipality or private land owners to meet their staging/parking needs. Space for the field offices will be made available near the proposed security gate/structure area on the terminal operator's property.
2. **Use of Facilities** – Contractor should be aware that the Department will not make the restroom facilities or other amenities of the terminal available to the Contractor. The contractor will need to supply their own restroom facilities, drinking water, electricity and phone service.
3. **Time Delays** – Contractor should take notice that the work is located partially within an active cargo port. This requires constant movement of trucks and equipment throughout the facility, 24 hours a day. Contractor will closely coordinate construction activities with the Department and Terminal Operator so as to maintain vehicle access on the road and to the various facility areas that require access. During times when a ship is being loaded/unloaded with dry cargo, vehicle movements supporting that operation will have priority over construction activity.

The contractor shall submit a Traffic Control Plan (TCP) in accordance with Section 652.33 – submittal of Traffic Control Plan. This TCP shall meet as a minimum, all items specified under Section 652 – Maintenance of Traffic, as well as address coordination with terminal operations and vehicle movements. The contractor will not be allowed to use other local roads to set up a detour and will put up temporary signs at Navy Street indicating “no thru traffic – local traffic only”.

4. Access Plan – Access to the site is currently controlled. A portion of the work lies within this controlled area. The contractor will work with the Department and the Terminal Operator to develop a plan that maintains this control throughout the project. The contractor will have a single point of contact person who will be responsible for interacting with all parties for access into the facility. The contractor will also need to supply temporary barricades (traffic control devices) when work is conducted in the gate area, to help manage access through this area.
5. Priority of Work – Due to the time of year that the work can begin and to security requirements imposed on the terminal operator, the Contractor shall begin work on all security type items, as soon as practical after the notice to proceed. Those items will include, but not be limited to security fencing, CCTV system, entrance building and gate structures. Along with the security items the contractor will also coordinate activities immediately with the railroad Co. to establish the new crossing. All efforts should be made to have the crossing in prior to suspending work for the winter, with the exception of paving. The contractor should make every effort to apply a patch at the crossing to facilitate vehicle movement.

Should the contractor elect to open portions of Trundy Road before winter, then prior to suspension of work for the winter, the contractor will temporarily patch that portion of road that was open with a minimum of 1 ½ “ of 19.0 mm Hot Mix Asphalt. No Hot Mix Asphalt patch material can be left permanently in place, unless placed in accordance with specifications for that material.

Town: **Searsport**
Project: **HP-8188(01)X , 8188.01**
Date: **June 22, 2004**

SPECIAL PROVISIONS
SECTION 104
Utilities

MEETING

A Pre-construction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications December 2002 is required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

Overview:

Utility	Contact	RR	Aerial	Underground
Montreal, Maine & Atlantic Railway	Thomas R Klemm Montreal, Maine & Atlantic Railway 15 Iron Road Hermon, Me 04401 Tel. 207-848-4246	✓		
Central Maine Power	Dennis Chadbourne Central Maine Power 83 Edison Drive Augusta, ME Tel. 207-828-2860		✓	
Searsport Water District	Herb Kronholm Searsport Water District 46 Prospect Street Searsport, ME 04974 Tel. 207-548-2910			✓
Searsport Sewer District	Howard Clark Searsport Sewer District Trundy Road Searsport, ME 04974 Tel. 207 548-6320			✓
Verizon	Michael Samiya Verizon 615 Odlin Rd Bangor, ME 04401 Tel. 207-990-5228		✓	

Town: **Searsport**
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Temporary utility adjustments are **not** anticipated at this time.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. Maine DOT cannot certify the level of accuracy of this data. Underground facilities indicated on the plan views have been collected from historical records and/or on-site designations provided by the respective utility companies.

All adjustments are to be made by the respective utility unless otherwise specified herein.

All utility crossings over highways will provide not less than 6 meters (20 feet) vertical clearance over finished grade elevation during construction of this project.

Any times and dates mentioned are estimates only and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Department if they are exceeded.

All clearing and tree removal which is part of this contract in areas where utilities are involved must be completed by the Contractor before the utilities are able to relocate their facilities.

The Contractor must coordinate with the Utilities any cuts and fills that are required for the completion of their work in this section.

Utility working days are Monday through Friday, conditions permitting. Times are estimated on the basis of a single crew for each utility.

All adjustments are to be made by the respective utility unless otherwise specified herein.

Utilities have been notified and will be furnished a project specification book.

Town: **Searsport**
 Project: **HP-8188(01)X , 8188.01**
 Date: **June 22, 2004**

AERIAL

Summary:

Utility	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	Estimated Working Days
Central Maine Power	✓				2
Central Maine Power		✓	✓		3
Verizon		✓	✓		2
Central Maine Power				✓	1
Total:					8

Utility Specific Issues:

Montreal, Maine & Atlantic Railway

The Contractors attention is directed to the Protection of Railroad and Traffic Structures (PRTS) section of the Special Provisions located in the Departments Proposal Book. All electrical conductors or span wires over the railroad tracks will be no less than 7.30 meters (24 ft) above the rails. Contact Thomas Klemm at (207) 848-4278 for any questions regarding this utility.

Central Maine Power

CMP will set 3 new poles on Trundy to accommodate the new width. The existing aerial lines will need to be transferred to the new poles once they are set. CMP will remove the existing poles once all wiring has been transferred to the new poles.

Verizon

The existing copper lines will be installed onto the new poles once CMP has completed their transfer or is substantially complete.

Pole List:

**Trundy Road, Searsport
PIN 8188.01**

Station	Feet to C.L.	L / R	Pole	Miscellaneous
~110+90	25	R	34	OK
~111+43	23	R	33	OK
113+03	31	L	32	Old location
113+04	38	L		New location
114+31	18	L	31	Old location
114+35	20	L		New location

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Station	Feet to C.L.	L / R	Pole	Miscellaneous
115+50	35	R	30S	OK
115+93	26	L	30	OK
117+68	29	L	29	OK
119+44	33	L	28	OK
121+07	34	L	27	OK
121+13	68	R	27S	OK
125+00	42	L	1	OK
~131+70	50	L	19	OK
133+22	27	R	18	OK
134+72	38	R	16	OK
136+17	32	R		New pole #15
136+21	32	R	15	Remove
138+08	40	L	14	Old location
138+31	35	L		New location, easement needed
~138+79	22	R	14S	New pole
140+44	33	R	14.1	OK
143+50	32	R	14.2	OK
145+46	26	L	14.3	OK
145+66	25	R	14.3S	OK
~151+26	20	L	20.1S	OK
151+30	21	R	20.1	OK
153+40	30	L	20	OK

Town: **Searsport**
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Subsurface

Utility	Summary of Work	Estimated Working Days
Searsport Water District	Install new 8" & 12" water line, install hydrants, install services, adjust gate valves	90
Searsport Sewer District	Adjust manhole	1
Total:		91

Searsport Water District

Searsport Water District has existing water line running approximately from Sta. 101 to 137+50 (Navy St intersection). A new water main will be installed starting on the west side of Rte.1 and terminating at the new pier (Sta. 101±). There will be branch lines, services, hydrants, and other appurtenances that will be needed to be installed.

Searsport Sewer District

Searsport Sewer District has sewer line from approximately Sta. 138+00 to 146+50. A sewer manhole near Sta. 138+00 will have to be adjusted.

BLASTING

In addition to any other notice that may be required, the Contractor shall pay particular attention to any aerial or underground utilities within the blasting area. The Contractor shall also notify an authorized representative of each utility having plant close to the site no later than Forty-Eight (48) hours before the intended blast. The notice shall state the approximate time and location of the blast.

SPECIAL PRACTICES AROUND UTILITY FACILITIES

The Contractor shall be responsible for complying with M.S.R.A. Title 35-A, Chapter 7-A Sections 751 – 761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line; the Contractor shall notify the aerial utilities as per Section 757 of the above act.

MAINTAINING UTILITY LOCATION MARKINGS

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

DIG SAFE

The Contractor shall be responsible for determining the presence of underground utility facilities prior to commencing any excavation work and shall notify utilities of proposed excavation in accordance with M.R.S.A. Title 23 §3360-A, Maine "Dig Safe" System.

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Project: **HP-8188(01)X , 8188.01**
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Traffic Control

When working within the limits of the work zone the Utilities must be in compliance with Section 652 of the Standard Specification with particular emphasis on the NCHRP 350 requirements for signs and traffic control.

***Special note to Contractor and the Utilities:** The Contractor shall plan and schedule his work in such a manner that the utilities that are located on this project will not be harmed, damaged or impacted in any way. The Contractor and the Utility will coordinate their work plans in an effort not to interfere with each other's progress or the completion of the project.*

THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY.

Town: **Searsport**
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6/4/04

SPECIAL PROVISION PROTECTION OF RAILROAD TRAFFIC AND STRUCTURES

1. GENERAL REQUIREMENTS

Part of the work required by the Contract will be performed within a railroad right of way and/or adjacent to F track, telephone, telegraph, signal, and electric supply lines of a railroad or railroads. The Contractor agrees to perform all such work in compliance with all of the terms of this Special Provision and all safety rules, regulations, or standards applicable to the Railroad. The Contractor shall be fully responsible for all damages arising from his failure to comply with the requirements of this Special Provision. The Contractor shall be deemed to have included all costs in the unit prices of the Schedule of Prices and the Proposal.

2. AMOUNT OF RAILROAD WORK

The estimated amount of work to be done within 15.24 Meters (50 feet) of the track of the **Montreal, Maine Atlantic Railway** is **16 %** of the contract. The work area along MDOT road centerline stationing begins at 106+15 and ends at 112+50, and along rail road centerline beginning at station 10+35 to 12+75.

3. NUMBER OF TRAINS AND TRAIN SPEED

The Contractor is notified that a maximum speed of **16 kph (10 mph)** will be considered as prevailing for the operation of trains of the Railroad at this project and that the approximate number of trains per day at this project is **2**. This number does not represent the number of passes a train will make on this siding through the construction area

4. PRIORITY OF RAILROAD OPERATIONS

The train movements of the Railroad, and its lessees, and licensees shall have absolute priority over the performance of the Construction Project within the railroad right of way. The Contractor hereby agrees that the hours and times of work within the Railroad right of way must be coordinated through the Railroad and that such hours and times are subject to change without prior notice to the Contractor, unless other prior arrangements have been made through the Railroad.

5. AUTHORITY OF RAILROAD TO STOP WORK

If the Contractor fails to comply with the safety terms of this Special Provision, or if the Chief Engineer of the Railroad determines that the Contractor is using unsafe practices that threaten the safety of rail traffic, rail workers, or the general public, the Railroad shall have the right to immediately order the Contractor to cease work and vacate the Railroad's property. The Railroad agrees to confirm any cessation of work in writing by delivering to the Department's Construction Manager a completed Stop Work Order form attached as Exhibit A within 24 hours of giving any such order.

Town: **Searsport**
Project/PIN: **HP-8188(01)X / 8188.00**
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6. ENTRY UPON RAILROAD PROPERTY

The Railroad hereby agrees to permit the Contractor, together with their subcontractors, suppliers, consultants and engineers (the "Contractor"), to enter upon the Railroad property for the purpose of performing the Construction Project, PROVIDED THAT the Contractor complies with all of the terms of this Special Provision and all safety requirements and directions of the Chief Engineer of the Railroad, or his authorized representative (the "Railroad's Chief Engineer").

7. NOTICE REQUIRED BEFORE ENTRY

The Contractor shall give written notice to the Railroad's Chief Engineer at least **2** calendar day(s) in advance of the time it proposes to do work within the limits of the Railroad right-of-way or perform operations that may create a Hazard as specified by this Special Provision. The Contractor shall give such notice regardless of whether the work may also be within the limits of a public highway.

8. HAZARDS

The Contractor shall assess to its own satisfaction hazards which may be caused by its operations. At a minimum, the Contractor agrees that the following shall constitute Hazards.

An operating track shall be considered fouled and subject to hazard when any object is brought nearer than **7.6** meters (**25.00** feet) to the gauge line of the near rail of the track.

A signal line or communication line shall be considered fouled and subject to hazard when any object is brought nearer than **N/A** meters (**N/A** feet) to any wire or cable.

An electric supply line shall be considered fouled and subject to hazard when any object is brought nearer than **N/A** meters (**N/A** feet) to any wire of the line.

Cranes, trucks, power shovels or any other equipment shall be considered as fouling and subjecting to hazard a track, signal line, communication or electric supply line when working in such position that failure of equipment, with or without load, could foul the track, signal line, communication or electric supply line.

Railroad operation will be considered subject to hazard when explosives are used in the vicinity of railroad premises, or during the driving or pulling of sheeting for any footing adjacent to a track, or when erecting structural steel adjacent to a track, or when performing work under, across or adjacent to a track, or when operations involve, swinging booms or chutes that could in any way come nearer than **7.6** meters (**25.00** feet) to the gauge line of the near rail of the track, or when erection or removal of staging, false work or forms fouls a track or wire line.

None of the operations specified as a Hazard above shall be carried on during the approach or passing of a train or without permission from the Railroad's Chief Engineer and the presence of a railroad inspector/flagman, unless other prior arrangements have been made through the Railroad.

9. MINIMUM CLEARANCES

During the construction of staging, false work or forms, the Contractor shall at all times maintain a minimum vertical clearance of 6.7 meters (**22.00** feet) above the top of high rail and a minimum side clearance of 2.75 meters (**9.00** feet) from the gauge line of the near rail where track is tangent. Additional side clearance must be maintained where track is on a curve.

10. WORK PLAN SUBMITTAL AND APPROVAL

The Contractor shall submit in writing to the Railroad's Chief Engineer or duly authorized representative, and the Department's Railroad Property Manager or his appointed representative, at least **4** calendar day(s) in advance of the start of the project, an outline of his plan for work within the Railroad right of way including contemplated method(s) of construction. This plan must meet with the approval of the Railroad's Chief Engineer and the Department's Railroad Property Manager in every respect. If the Contractor contemplates the use of "on the track equipment", it should so state and obtain from the Railroad the conditions pertaining to such operations. All Railroad costs included in this operation will be borne by the Contractor. In a like manner, any of the Contractor's equipment or material on cars for this project shall be handled in conformance with existing traffic rules with all costs borne by the Contractor.

Prior to submitting his Proposal, the Contractor shall have ascertained from the Railroad and from the Department's Railroad Property Manager or his appointed representative, all information relating to its requirements and regulations and all costs in connection with compliance thereto.

11. EXCAVATIONS

Before excavation for footings adjacent to tracks and/or within the Railroad's right-of-way may commence, whether or not also within the limits of a public highway, plans and calculations for such excavations, prepared by a Professional Engineer authorized to practice in Maine, shall be submitted to the Railroad's Chief Engineer for review and approval. Unless other prior arrangements have been made, the Railroad's Chief Engineer shall have **2** week(s) to perform such review and approval and issue a written permission to proceed with the excavation. No excavation shall proceed without such permission.

At a minimum, excavations must utilize proper bracing, shoring, sheeting or other support as determined by the Railroad's Chief Engineer, to support the tracks with railroad traffic. Open excavation shall be suitably planked over when construction operations are not in progress, the location of any wires, conduits, pipes, cables or other railroad facilities below the surface of the ground. Damage to any such facilities caused by the failure of the Contractor to ascertain the location of such facilities or by failure to use due care to avoid injury to such facilities shall be at the expense of the Contractor.

12. EQUIPMENT

Equipment of the Contractor shall be in such condition so as to prevent failure that would cause delay in the operation of trains or damage to railroad facilities. Equipment shall not be placed or put in operation adjacent to a track without first obtaining permission of the Railroad. The Railroad agrees that such permission shall not be unreasonably withheld.

13. RAILROAD SERVICES - GENERALLY

When work is to be performed within the Railroad's right-of-way, the Railroad shall provide the services, equipment and materials provided in this Special Provision including, but not limited to, engineering, flagging, inspection, signal protection and/or relocation, and restoration or replacement of the Railroad's track structure of ballast. Further, if the Railroad's Chief Engineer determines that the Contractor's operations do not comply with all of the safety requirements of this Special Provision and all safety requirements and directions of said Chief Engineer, the Railroad will employ the necessary qualified employees to protect its trains and other facilities. The Contractor shall pay to the Railroad the cost for performing all Railroad Services unless said costs are to be paid by the Department as specified in this Special Provision.

14. INSPECTION / FLAGGING

The Railroad shall furnish and assign all inspectors / flaggers for general inspection purposes of general protection of railroad property and operations during construction as the Railroad's Chief Engineer determines are necessary to preserve safety.

(a) Responsibility for Cost. The Department will bear the cost of flagging or inspection (including travel time) or any combination thereof up to **21** man days of said flagging or inspection. If, in the opinion of the Railroad's Chief Engineer, further services of a flagger or inspector will be required due to the operations of the Contractor, the services will be furnished and the cost thereof (salary, expenses, insurance, taxes and vacation allowance, etc.) shall be paid to the Railroad by the Department, and will be recovered by the Department from the Contractor.

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(b) Terms. The minimum hours per day for the Railroad employees engaged in inspection flagging services shall be four (4) hours. Time at rates for straight time, overtime or for deadheading starts in accordance with established practices in effect in the territory in which the project is located. Information as to these practices should be obtained from the Railroad's Chief Engineer.

The Contractor shall notify the Railroad's Chief Engineer and the Chief Engineer of the Department in writing 5 calendar day(s) before beginning, resuming or suspending work within 2.75 meters (9.00 feet) of the track, so that an inspector may be provided or removed in accordance with the requirements of this Special Provision. An inspector may be removed upon 1 calendar day(s) notice. Failure to give notice of intent to suspend work shall be cause of charge to the Contractor the cost of inspection during the period when work is suspended.

(c) Estimated Cost. The following is an estimate of the cost per day of inspection/flagging necessary for this project. The rates shown include all overhead charges, travel time, deadheading and personal expenses.

Date of estimate 5/14/04.

Estimated daily rate for four (4) consecutive hours Monday-Friday (straight time): \$120.00

Estimated daily rate for four (4) consecutive hours Saturday, Sunday, Holiday (overtime):
\$240.00

Estimated rate for hours worked in excess of eight (8) hours in any one day: \$45.00

If a company vehicle is used the daily rate for four (4) consecutive hours is \$50.00

Rates charged will be those in effect at the time of the performing the inspection/ flagging which may be different than the rates used at the date of the Estimate. The Railroad agrees to notify the Department if rates used to calculate the above estimates change before the date of bids are received for this Contract. The Railroad will not charge MDOT for the flagger/inspection time as due consideration of payment in kind in exchange for the Departments supplying the railroad in materials and services. The contractor shall be charged for flagger/inspection time above the 21 days allotted to the project.

(d) Definitions.

Man day (M.D.) - eight (8) consecutive hours or any portion thereof.

Overtime - Each additional hour or fraction thereof consecutive to and beyond the standard man day will count as 3/16 of a man day.

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Standard Man day - Eight (8) consecutive hour, Monday - Friday between the hours of **7:00** a.m. to **3:30** p.m. unless otherwise noted and agreed to by all parties.

Travel Time - Time required by flagger and/or inspector to commute between his or her point of headquarters to the project site. This time shall not be charged used in determining available man days.

15. OTHER CONTRACTOR RESPONSIBILITIES

The restoring and resurfacing of tracks, if disturbed due to Contractor's operations, shall be at the expense of the Contractor.

Any other changes made or services furnished by the Railroad as a result of the Contractor will be at the Contractor's expense.

16. EXTRA-CONTRACT SERVICES

Temporary and permanent changes of tracks and telephone, signal and electric supply lines made necessary by or to clear the permanent work of the Contractor as shown on the construction plans and included in the Railroad force account as collectable from the State will be made or caused to be made by the Railroad without expense to the Contractor.

17. INDEMNIFICATION

Where work is being performed over, under, across or adjacent to Railroad premises, the Contractor shall defend, indemnify and save harmless the Railroad and the Maine Department of Transportation from and against any and all loss, cost, damage, claims, suits, demands, or liability for damages for personal injury including death and for damage to property, which may arise from or out of the operations conducted under his contract, occurring by reason of any act or omission of the Contractor, his agents, servants or employees, or by reason of any act or omission of any subcontractor, his agents, servants or employees.

18. INSURANCE

In addition to any other forms of insurance or bonds required under the terms of the Contract, the Contractor will be required to procure and maintain, at its sole cost and expense, the following insurance coverages naming the Railroad as an insured.

(a) Railroad Protective Liability Insurance with limits not less than **\$2,000,000** per single occurrence and **\$6,000,000** per aggregate total occurrences.

(b) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project with limits of not less than **\$2,000,000** per single occurrence and **\$6,000,000** per aggregate total occurrences.

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(c) Workers Compensation and Occupational Disease Insurance, as required by law.

(d) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.

If any part of the work is sublet, these insurance coverages shall be provided by or on behalf of the subcontractors to cover their operations

Each policy shall carry an endorsement covering the "save harmless" clause in favor of the Railroad and the Maine Department of Transportation, as set forth in the paragraph, "Responsibility for Damage Claims".

If blasting is to be done in the vicinity of the Railroad, the insurance policies shall include such coverage.

The policies shall be in force before any work is done on the project and shall remain in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State and the Railroad.

Before any work is done on the project, the Department of Transportation and the Railroad's Chief Engineer shall be furnished certificates of each policy. Further, the original policy of the Comprehensive General Liability Insurance and the Railroad Protective Liability Insurance shall be furnished to the Railroad's Chief Engineer and a duplicate shall be furnished to the Department of Transportation.

The policy or policies of the Railroad's protective public liability and property damage liability shall be written by a Company authorized to do business in the State of Maine, and shall be signed by the President and Secretary of the Insurance Company and shall be countersigned by an authorized representative of the Company.

19. ROADWAY WORKER SAFETY REGULATION

Notice to all Contractors/Subcontractors and individuals must be aware of the Federal Roadway Worker Safety Regulation, CFR 49, Part 214(c). They may be required to comply with this regulation. Any requirements for them to comply will be discussed at the pre-construction utility meeting.

6/4/04

MDOT/RAILROAD STOP WORK ORDER

Signature

MDOT –Ernie Forgione Utility Section

MDOT – Paul Pottle Project Manager

Railroad – Thomas Klemm Vice President Engineering

1. **Risk Assessment.** Each identified/validated hazard shall be assigned a Risk Assessment Code (RAC) by the Safety Office. The RAC represents the degree of risk associated with the deficiency and combines the elements of hazard severity and mishap probability. The RAC is derived as follows:

a. **Hazard Severity.** The hazard severity is an assessment of the worst potential consequence: Defined by degree of injury, occupational illness, or property damage, which is likely to occur as a result of a deficiency. Hazard severity categories shall be assigned by roman numeral according to the following criteria.

- (1) **Category I - Catastrophic:** The hazard may cause death or loss of a facility.
- (2) **Category II - Critical:** May cause severe injury, severe occupational illness, or major property damage.
- (3) **Category III - Marginal:** May cause minor injury, minor occupational illness, or minor property damage.
- (4) **Category IV - Negligible:** Probably would not affect personnel safety or health, but is nevertheless in violation of a NAVOSH standard.

b. **Mishap Probability.** The mishap probability is the probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population. Mishap probability shall be assigned an Arabic letter according to the following criteria:

- (1) Sub-category A - Likely to occur immediately or within a short period of time.
- (2) Sub-category B - Probably will occur in time.
- (3) Sub-category C - May occur in time.
- (4) Sub-category D - Unlikely to occur.

c. **Risk Assessment Code.** The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic number that can be used to help determine hazard abatement priorities.

	Mishap Probability					RAC
		A	B	C	D	1 - Critical
Hazard Severity	I	1	1	2	3	2 - Serious
	II	1	2	3	4	3 - Moderate
	III	2	3	4	5	4 - Minor
	IV	3	4	5	5	5 - Negligible

Pin 8188.01
Searsport
September 20, 2004

SPECIAL PROVISION

**SECTION 105
SUBMITTALS**

The contractor will be required to make submissions on all aspects of their work. Submittals will not only cover those areas clearly identified in specific specifications, but they will also include, but not be limited to Erection/Installation Plans; Design/Build Items; Products; Procedures; Personnel; Schedules; Changes: and any area that will help clarify what will be happening within the terminal area at any given time. The cost associated with doing this will be considered incidental to the other work items.

Pin 8188.01
Searsport
September 20, 2004

SPECIAL PROVISION

**SECTION 107
TIME
(Contract Time)**

All work shall be completed by July 29, 2005, which is the specified completion date for this contract.

PIN 8188.01
Searsport
September 20, 2004

SPECIAL PROVISIONS

SECTION 107.9

TIME

(Project Closeout)

The following is in addition to the requirements of Section 107.9.

The Contractor shall maintain, at the site, a set of Drawings, on which shall be recorded accurately as the work progresses, the actual dimensions and grades of all his work, indicating thereon all variations from the Contract Drawings. The record shall include the work of all Subcontractors. Record drawings shall be reviewed by the Resident, and the Contractor shall make all necessary changes according to the Resident's review.

Prior to final acceptance of the Work, all recorded data shall be transferred by the Contractor, to a complete set of reproducible record drawings, in ink or photolitho reproductions of the original of the Contract Drawings showing "As-Built" conditions. Reproductions shall be 3 mil mylar, single matted, as approved by the Department.

SPECIAL PROVISION
(Consolidated Special Provisions)

SPECIAL PROVISION SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions - Closeout Documentation

Replace the sentence "A letter stating the amount..... DBE goals." with "DBE Goal Attainment Verification Form"

SPECIAL PROVISION SECTION 102
DELIVERY OF BIDS
(Location and Time)

102.7.1 Location and Time Add the following sentence "As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book."

SPECIAL PROVISION SECTION 103
AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering Change the first paragraph to read as follows: "After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department's satisfaction that the Bidder is responsible and qualified to perform the Work."

SPECIAL PROVISION SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

Delete the entire Section 104.5.9 and replace with the following:

104.5.9 Landscape Subcontractors The Contractor shall retain only Landscape Subcontractors that are certified by the Department's Environmental Office Landscape Unit.

SPECIAL PROVISION SECTION 105 GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

105.6.1 Department Provided Services The Department will provide the Contractor with the description and coordinates of vertical and horizontal control points, set by the Department, within the Project Limits, for full construction Projects and other Projects where survey control is necessary. For Projects of 1,500 feet in length, or less: The Department will provide three points. For Projects between 1,500 and 5,000 feet in length: The Department will provide one set of two points at each end of the Project. For Projects in excess of 5,000 feet in length, the Department will provide one set of two points at each end of the Project, plus one additional set of two points for each mile of Project length. For non-full construction Projects and other Projects where survey control is not necessary, the Department will not set any control points and, therefore, will not provide description and coordinates of any control points. Upon request of the Contractor, the Department will provide the Department's survey data management software and Survey Manual to the Contractor, or its survey Subcontractor, for the exclusive use on the Department's Projects.

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

The Contractor must notify the Department of any errors or inconsistencies regarding the data and layout provided by the Department as provided by Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Survey Quality Control The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations of checks may be required if significant discrepancies are discovered in this process. Construction survey layout

quality control also requires written documentation of the layout process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance. Construction survey quality assurance may, or may not, be performed by the Department. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department will provide a minimum notice of 48 hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Department.

105.6.4 Boundary Markers The Contractor shall preserve and protect from damage all monuments or other points that mark the boundaries of the Right-of-Way or abutting parcels that are outside the area that must be disturbed to perform the Work. The Contractor indemnifies and holds harmless the Department from all claims to reestablish the former location of all such monuments or points including claims arising from 14 MRSA § 7554-A. For a related provision, see Section 104.3.11 - Responsibility for Property of Others.

SPECIAL PROVISION SECTION 106 QUALITY

106.6 Acceptance Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

SPECIAL PROVISION SECTION 107 TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day,

President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

107.7.2 Schedule of Liquidated Damages Replace the table of Liquidated Damages with the following:

<u>From More Than</u>	<u>Up to and Including</u>	<u>Amount of Liquidated Damages per Calendar Day</u>
\$0	\$100,000	\$100
\$100,000	\$300,000	\$200
\$300,000	\$500,000	\$400
\$500,000	\$1,000,000	\$575
\$1,000,000	\$2,000,000	\$750
\$2,000,000	\$4,000,000	\$900
\$4,000,000	and more	\$1,875

SPECIAL PROVISION SECTION 108 PAYMENT

108.4 Payment for Materials Obtained and Stored First paragraph, second sentence, delete the words "...Delivered on or near the Work site at acceptable storage places."

SPECIAL PROVISION SECTION 109 CHANGES

109.1.1 Changes Permitted Add the following to the end of the paragraph: "There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s)."

109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: "Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department"

109.4.4 Investigation / Adjustment In the third sentence, delete the words "subsections (A) - (E)"

109.5.1 Definitions - Types of Delays

B. Compensable Delay Replace (1) with the following; "a weather related Uncontrollable Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an Equitable Adjustment if the Project falls within the geographic boundaries prescribed under the disaster declaration."

109.7.2 Basis of Payment Replace with the following: “Equitable Adjustments will be established by mutual Agreement for compensable items listed in Section 109.7.3-Compensable Items, based upon Unit or Lump Sum Prices. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment.”

109.7.3 Compensable Items Replace with the following: “The Contractor is entitled to compensation for the following items, with respect to agreed upon Unit or Lump Sum Prices:

1. Labor expenses for non-salaried Workers and salaried foremen.
2. Costs for Materials.
3. A markup on the totals of Items 1 and 2 of this subsection 109.7.3 for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.
4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Section 109.7.5(C), or the Contractor’s Actual Costs.
5. Costs for extended job-site overhead.
6. Time.
7. Subcontractor quoted Work, as set forth below in Section 109.7.5 (F).”

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; “Equipment leased....”

Paragraph 6, change sentence 2 from “The Contractor may furnish...” to read “If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records.”

Add the following paragraph; “Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs.”

Add the following section;

“F. Subcontractor Quoted Work When accomplishing Force Account Work that utilizes Subcontractor quoted Work, the Contractor will be allowed a maximum markup of 5% for profit and overhead.”

SPECIAL PROVISION SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

110.2.3 Bonding for Landscape Establishment Period The Contractor shall provide a signed, valid, and enforceable Performance, Warranty, or Maintenance Bond complying with the Contract, to the Department at Final Acceptance.

The bond shall be in the full amount for all Pay Items for work pursuant to Sec 621, Landscape, payable to the “Treasurer - State of Maine,” and on the Department’s forms, on exact copies thereof, or on forms that do not contain any significant variations from the Department’s forms as solely determined by the Department.

The Contractor shall pay all premiums and take all other actions necessary to keep said bond in effect for the duration of the Landscape Establishment Period described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

All Bonds shall be procured from a company organized and operating in the United States, licensed or approved to do business in the State of Maine by the State of Maine Department of Business Regulation, Bureau of Insurance, and listed on the latest Federal Department of the Treasury listing for “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies.”

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department’s self-help remedy provided in Section 112.1 - Default to the same extent as if all terms of the Contract are contained in the bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the

Surety's waiver of any right to deny or contest payment and the Surety's acknowledgment that the claim is valid and undisputed.

SPECIAL PROVISION SECTION 401 HOT MIX ASPHALT PAVEMENT

401.18 Quality Control Method A & B Make the following change to paragraph a. QCP Administrator; in the final sentence, change "...certified as a Plant Technician or Paving Inspector..." to "...certified as a Quality Assurance Technologist..."

401.201 Method A Under a. Lot Size, add the following; "Each lot will be divided into a minimum of four sublots for mix properties and five sublots for percent TMD."

SPECIAL PROVISION SECTION 402 PAVEMENT SMOOTHNESS

Add the following: "Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box."

"402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A subplot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If greater than one-half the normal lot size, it will be tested as a separate lot."

SPECIAL PROVISION SECTION 502 STRUCTURAL CONCRETE

502.05 Composition and Proportioning; TABLE #1; NOTE #2; third sentence; Change "...alcohol based saline sealer..." to "alcohol based silane sealer..."

502.0502 Quality Assurance Method A - Rejection by Resident Change the first sentence to read: "For an individual subplot with test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80....."

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: "For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will....."

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: "Circumstances may arise, however, where the Department may"

502.10 Forms and False work

D. Removal of Forms and False work 1., First paragraph; first, second, and third sentence; replace “forms” with “forms and false work”

502.11 Placing Concrete

G. Concrete Wearing Surface and Structural Slabs on Precast Superstructures
Last paragraph; third sentence; replace “The temperature of the concrete shall not exceed 24° C [75° F] at the time of placement.” with “The temperature of the concrete shall not exceed 24° C [75° F] at the time the concrete is placed in its final position.”

502.15 Curing Concrete First paragraph; replace the first sentence with the following; “All concrete surfaces shall be kept wet with clean, fresh water for a curing period of at least 7 days after concrete placing, with the exception of vertical surfaces as provided for in Section 501.10 (D) - Removal of Forms and False work.”

Second paragraph; delete the first two sentences.

Third paragraph; delete the entire paragraph which starts “When the ambient temperature....”

Fourth paragraph; delete “approved” to now read “...continuously wet for the entire curing period...”

Fifth paragraph; second sentence; change “...as soon as it is possible to do so without damaging the concrete surface.” to “...as soon as possible.”

Seventh paragraph; first sentence; change “...until the end of the curing period.” to “...until the end of the curing period, except as provided for in Section 502.10(D) - Removal of Forms and False work.”

SPECIAL PROVISION SECTION 503 REINFORCING STEEL

503.06 Placing and Fastening Change the second paragraph, first sentence from: “All tack welding shall be done in accordance with Section 504, Structural Steel.” to “All tack welding shall be done in accordance with AWS D1.4 Structural Welding Code - Reinforcing Steel.”

SPECIAL PROVISION SECTION 504 STRUCTURAL STEEL

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "...ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and..."

SPECIAL PROVISION SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate...."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension..." with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

SPECIAL PROVISION SECTION 603 PIPE CULVERTS AND STORM DRAINS

603.0311 Corrugated Polyethylene Pipe for Option III Replace the Minimum Mandrel Diameter Table with the following:

Nominal Size US Customary (in)	Minimum Mandrel Diameter (in)	Nominal Size Metric (mm)	Minimum Mandrel Diameter (mm)
12	11.23	300	280.73
15	14.04	375	350.91
18	16.84	450	421.09
24	22.46	600	561.45
30	28.07	750	701.81
36	33.69	900	842.18
42	39.30	1050	982.54
48	44.92	1200	1122.90

SPECIAL PROVISION SECTION 604 MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

"Tops and Traps	712.07
Corrugated Metal Units	712.08
Catch Basin and Manhole Steps	712.09"

SPECIAL PROVISION SECTION 605 UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

In the first paragraph, second sentence, delete the words "metal pipe".

SPECIAL PROVISION SECTION 606 GUARDRAIL

606.02 Materials Delete the entire paragraph which reads "The sole patented supplier of multiple mailbox...." and replace with "Acceptable multiple mailbox assemblies shall be listed on the Department's Approved Products List and shall be NCHRP 350 tested and approved."

Delete the entire paragraph which reads "Retroreflective beam guardrail delineators...." and replace with "Reflectorized sheeting for Guardrail Delineators shall meet the requirements of Section 719.01 - Reflective Sheeting. Delineators shall be fabricated from high-impact, ultraviolet and weather resistant thermoplastic.

606.09 Basis of Payment First paragraph; delete the second and third sentence in their entirety and replace with "Butterfly-type guardrail reflectorized delineators shall be mounted on all W-beam guardrail at an interval of every 10 posts [62.5 ft] on tangents sections and every 5 posts [31.25 ft] on curved sections as directed by the Resident. On divided highways, the delineators shall be yellow on the left hand side and silver/white on the right hand side. On two-way roadways, the delineators shall be silver/white on the right hand side. All delineators shall have retroreflective sheeting applied to only the traffic facing side. Reflectorized guardrail delineators will not be paid for directly, but will be considered incidental to the guardrail items."

SPECIAL PROVISION SECTION 615 LOAM

615.02 Materials Make the following change:

<u>Organic Content</u>	<u>Percent by Volume</u>
Humus	"5% - 10%", as determined by Ignition Test

SPECIAL PROVISION SECTION 618

SEEDING

618.01 Description Change the first sentence to read as follows: "This work shall consist of furnishing and applying seed" Also remove ",and cellulose fiber mulch" from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: "These rates shall apply to Seeding Method 2, 3, and Crown Vetch."

In 618.03(c) "1.8 kg [4 lb]/unit." to "1.95 kg [4 lb]/unit."

618.09 Construction Method In 618.09(a) 1, sentence two, replace "100 mm [4 in]" with "25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)"

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

SPECIAL PROVISION SECTION 620 GEOTEXTILES

620.03 Placement Section (c)

Title: Replace "Non-woven" in title with "Erosion Control".

First Paragraph: Replace first word "Non-woven" with "Woven monofilament".

Second Paragraph: Replace second word "Non-woven" with "Erosion Control".

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the third sentence with the following: "Damaged geotextiles, as identified by the Resident, shall be repaired immediately."

620.09 Basis of Payment

Pay Item 620.58: Replace "Non-woven" with "Erosion Control"

Pay Item 620.59: Replace "Non-woven" with "Erosion Control"

SPECIAL PROVISION SECTION 621 LANDSCAPING

621.0036 Establishment Period In paragraph 4 and 5, change "time of Final Acceptance" to "end of the period of establishment". In Paragraph 7, change "Final Acceptance date" to "end of the period of establishment" and change "date of Final Acceptance" to "end of the period of establishment".

SPECIAL PROVISION SECTION 626 HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: "Pre-cast and cast-in-place foundations shall be warranted against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost."

SPECIAL PROVISION SECTION 637 DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor's own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor's own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control."

SPECIAL PROVISION SECTION 639 ENGINEERING FACILITIES

639.04 Field Offices Change the forth to last paragraph from: "The Contractor shall provide a fully functional desktop copier..." to "...desktop copier/scanner..."

SPECIAL PROVISION SECTION 652 MAINTENANCE OF TRAFFIC

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected..." to "Portable signs shall be erected..." In the third sentence; change "Signs must be erected so that the sign face..." to "Post-mounted signs must also be erected so that the sign face..."

652.8.2 Other Items Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

SPECIAL PROVISION SECTION 653

POLYSTYRENE PLASTIC INSULATION

653.05 Placing Backfill In the second sentence; change "...shall be not less than 150 mm [6 in] loose measure." to "...shall be not less than 250 mm [10 in] loose measure." In the third sentence; change "...crawler type bulldozer of not more than 390 kg/m² [80 lb/ft²] ground contact pressure..." to "...crawler type bulldozer of not more than 4875 kg/m² [2000 lb/ft²] ground contact pressure..."

653.06 Compaction In the last sentence; change "...crawler type bulldozer of not more than 390 kg/m² [80 lb/ft²] ground contact pressure..." to "...crawler type bulldozer of not more than 4875 kg/m² [2000 lb/ft²] ground contact pressure..."it]."

SPECIAL PROVISION SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SPECIAL PROVISION SECTION 703

AGGREGATES

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have..." and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [½ in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

703.07 Aggregates for HMA Pavements Delete the forth paragraph: "The composite blend shall have..." and replace with "The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO TP 58. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (March 2002 version) except that the reported degradation value will be the result of testing a single composite specimen from that

portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used."

703.22 Underdrain Backfill Material Change the first paragraph from "...for Underdrain Type B..." to "...for Underdrain Type B and C..."

SPECIAL PROVISION SECTION 706

NON-METALLIC PIPE

706.06 Corrugated Polyethylene Pipe for Underdrain, Option I and Option III Culvert Pipe Change the first sentence from "...300 mm diameters to 900 mm" to "...300 mm diameters to 1200 mm" Delete, in it's entirety, the last sentence which begins "This pipe and resins..." and replace with the following; "The manufacturing plants of polyethylene pipe shall be certified by the Eastern States Consortium. Polyethylene pipe shall be accepted based on third party certification by the AASHTO's National Transportation Product Evaluation Program."

SPECIAL PROVISION SECTION 709

REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "...shall be 12mm [1/2 inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)..."

SPECIAL PROVISION SECTION 712

MISCELLANEOUS HIGHWAY MATERIALS

Add the following:

"712.07 Tops, and Traps These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron castings shall conform to the requirements of AASHTO M105, Class 30, unless otherwise designated.

Carbon steel castings shall conform to the requirements of AASHTO M103/M103M. Grade shall be 450-240 [65-35] unless otherwise designated.

Structural steel shall conform to the requirements of AASHTO M183/M183M or ASTM A283/A283M, Grade B or better. Galvanizing, where specified for these units, shall conform to the requirements of AASHTO M111.

712.08 Corrugated Metal Units The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

712.09 Catch Basin and Manhole Steps Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

- (a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.
- (b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.

- (a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position. The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

- (b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-

reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Department. All such samples shall be returned to the Contractor upon completion of the tests.

712.32 Copper Tubing Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.

712.33 Non-metallic Pipe, Flexible Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.

712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.

712.341 Metallic Pipe Metallic pipe shall be ANSI, Standard B36.10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

712.36 Bituminous Curb The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01 Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture.

Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the plans and cross section and in accordance with the Standard Detail plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

712.38 Stone Slab Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [$\frac{1}{2}$ in] under a 600 mm [2 ft] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [$\frac{3}{4}$ in] shall show in the joint for the full exposed height.

Liftpin holes in all sides will be allowed except on the exposed face.

SPECIAL PROVISION SECTION 717
ROADSIDE IMPROVEMENT MATERIAL

717.05 Mulch Binder. Change the third sentence to read as follows:

“Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit].”

TRUNDY ROAD
RECONSTRUCTION PROJECT
SEARSPORT – WALDO COUNTY
PIN 008188.01

SECTION 3

SPECIAL PROVISIONS
SECTION 304
AGGREGATE BASE AND SUBBASE COURSE
(Aggregate Subbase)

If the Contractor wishes to route public traffic over the completed Aggregate Subbase Course for a period of time greater than 48 hours, the Aggregate Subbase Course shall be constructed with a minimum 50 mm [2 in] surcharge above the design grade. Whenever the surcharge is used, it shall be constructed with material meeting the requirements of Section 703.06(b), Type D Aggregate. Also, whenever, the surcharge is used, it shall be placed on all the Aggregate Subbase Course subjected to public traffic. When the surcharge is removed, it may be placed in driveways, sidewalks, approach roads, or the outer portions of the shoulders. Removal of the surcharge shall be followed immediately in succession by the fine grading of the aggregate subbase and construction of the next course.

The furnishing, placing, maintaining, and removal of the surcharge will not be paid for directly, but will be considered incidental to the Aggregate Subbase Course pay item.

If salvaged bituminous pavement is placed as the top layer of the aggregate subbase course, a surcharge is not required.

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
<u>Travel lanes and Shoulders</u>						
Wearing	12.5 mm	403.208	N/A	15/8"	1	4,9,17
Base	19.0 mm	403.207	N/A	2"	1 /more	4,9,11,17
Base	19.0 mm	403.207	N/A	2 3/8"	1 /more	4,9,17

COMPLEMENTARY NOTES

2. The density requirements are waived.
4. The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations.**
9. Section 106.6 Acceptance, (2) Method C - For hot mix asphalt items designated as Method C in Special Provision Section 403 --Hot Mix Asphalt, one sample will be taken from the paver hopper or the truck body per **1000 ton**, per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 9, Method C the Department will pay the contract unit price.

Table 9

Property	USL and LSL
	Method C
Percent Passing 4.75 mm [No. 4] and larger sieves	Target ± 7
Percent Passing 2.36 mm [No. 8] to 1.18 mm [No. 16] sieves	Target ± 5
Percent Passing 0.60 mm [No. 30]	Target ± 4
Percent Passing 0.30 mm [No. 50] to 0.075 mm [No. 200] sieve	Target ± 3
PGAB Content	Target ± 0.5

If the test results for each **1000 ton** increment are outside these limits the following deductions (Table 9b) shall apply to the HMA quantity represented by the test. A second consecutive failing test shall result in cessation of production

TABLE 9b

PGAB Content	-5%
2.36 mm sieve	-2%
0.30 mm sieve	-1%
0.075 mm sieve	-2%

11. A mixture meeting the gradation of 12.5 mm hot mix asphalt may be used at the option of the contractor.
13. A mixture meeting the requirements of section 703.09 Grading 'D', with a minimum PGAB content of 6%, and the limits of Specification 401, Table 7 (Drives and Sidewalks) for PGAB content and gradation may be substituted for this item. A job mix formula shall be submitted to the department for approval.

17. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a 10 ton, dual drum vibratory roller, 12-16 ton rubber tired roller, and 10 ton, dual drum finish roller. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum base fuel oils will not be permitted.

The Department will pay for the work specified in Subsection 401.11 for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying Item 409.15 bituminous material to joints and contact surfaces is incidental.

Tack Coat

A tack coat of emulsified asphalt, RS-1 or HFMS-1, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.025 gal/yd², and on milled pavement approximately 0.05 gal/yd², prior to placing a new course. All joints between existing and new pavement will be tacked.

SPECIAL PROVISION

SECTION 603 – PIPE CULVERTS AND STORM DRAINS

Sub-section 603 .0311 Corrugated Polyethylene Pipe for Option III is revised by the addition of the following: Pipe for Rail Road Crossing shall be rated for Cooper E-70 Loading; All pipe shall meet the requirements of AASHTO M294, Type S, Dual Wall. Option III shall be struck from this paragraph.

Sub-section 603 .031 General is replaced with the following:

Culvert Pipe shall be corrugated polyethylene pipe.

Subsection 603.12 Basis of Payment is revised by the addition of the following:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
603.159 12" Corrugated polyethylene pipe	Linear feet
603.179 18" Corrugated polyethylene pipe	Linear feet
603.199 24" Corrugated polyethylene pipe	Linear feet
603.209 30" Corrugated polyethylene pipe	Linear feet

- END OF SECTION -

SPECIAL PROVISION

SECTION 606 – GUARDRAIL

606.01 Description. The work to be done shall also include the dismantling, removing and discarding existing highway guardrail, including all fittings, anchors, posts and appurtenances designated to be removed and discarded on the plans or as ordered by the Engineer. Old post holes shall be backfilled with suitable material and satisfactory compacted.

606.08 Method of Measurement. Highway guard rail removed and discarded shall be measured for payment by the linear foot as ordered by the Engineer.

606.09 Basis of Payment. Work to be done under this item shall be paid for at the contract unit price per linear foot of highway guard removed and discarded, which price will be full compensation for dismantling, loading, transporting, and discarding of the guardrail, posts, fittings, anchors and appurtenances as designated above, and for backfilling and compacting old post holes with suitable material.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.363 Guardrail, Remove and Dispose	Linear Foot

- END OF SECTION -

SPECIAL PROVISION

SECTION 607 - FENCES

Sub-section 607 .03 General is revised by the addition of the following:

Gates shall be installed according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

Gate operators shall be installed according to manufacturer's written instructions, aligned and true to fence line and grade on concrete pads or bases bearing below frost line, dimensioned and reinforced according to gate-operator component manufacturer's written instructions and as indicated on Drawings.

Vehicle Loop Detector System: Cut grooves in pavement and bury and seal wire loop according to manufacturer's written instructions. Connect to equipment operated by detector. Comply with NFPA 70 and manufacturer's written instructions for grounding of electric-powered motors, controls, and other devices.

Sub-section 607.05 b.gates is revised by the addition of the following:

Comply with ASTM F 1184 for double slide gate types. Gates shall be Type II Cantilever Slide, Class 1 with external roller assemblies. Metal Pipe and Tubing shall be galvanized steel. Comply with ASTM F 1184 for materials and protective coatings. Frames and bracing members shall be fabricated from round, galvanized steel tubing with outside dimension and weight according to ASTM F 1184. Extend gate posts and frame end members above top of chain-link fabric at both ends of gate frame as shown on the Drawings to attach barbed wire assemblies. Roller Guards shall be as required per ASTM F 184 for Type I, Class gates. Latches shall permit operation from both sides of gate, locking devices, hangers, roller assemblies, and stops fabricated from galvanized steel. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.

Section 607 is revised by the addition of sub-section 607.05 e. gate operators and as follows:

Gate operator shall be a factory-assembled automatic operating gate opener designed for gate size, type, weight, and operation frequency. The heavy duty gate operator and the operation control system shall be suitable for industrial applications and the environmental conditions at the project site, with remote-control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements with building electrical system and comply with NFPA 70. The operator motor capacity shall be a minimum of one half (½) horse power to start, accelerate, and operate connected loads at designated speeds, within installed environment, with indicated operating sequence, and without

exceeding nameplate rating or considering service factor. Motor shall 120V/Sngle Phase and shall comply with NEMA MG-1.

Section 607 is revised by the addition of sub-section 607.05 f. gate operator control system and as follows:

Gate operators shall be remotely controlled with electric controls separated from gate and motor and drive mechanism. Controls shall be enclosed and have space for additional optional equipment. Mechanical card reader shall be American Access System Model 11024 or approved equal. Digital keypad entry system shall be Liner AccessKey or approved equal. Goose Neck Stands shall be single height such as American Access System Model AAS-18-001 or approved equal or dual height such as American Access System Model AAS-18-003 or approved equal. Vehicle Detector Loop systems including automatic closing timer with adjustable time delay before closing and timer cut-off switch shall be designed to open and close gate, hold gate open until traffic clears, and reverse gate. Each motorized gate shall be equipped with automatic safety sensor(s). Activation of sensor(s) causes operator to immediately reverse gate in both opening and closing cycles and hold until clear of obstruction.

Section 607 is revised by the addition of sub-section 607.05 g. barbed wire and as follows: Strands of barbed wire shall be installed on the Fence and Gates as shown on the Drawings.

Subsection 607.07 Basis of Payment is revised by the addition of the following: at the end of the second paragraph; payment for each gate unit shall include furnishing, installing and start up of the automatic gate operator including power cabling and control wiring, the electric controls and all incidental work needed to make each gate fully operational;

Add the following pay items to

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
607.19 Chain Link Fence 3 ft with barbed wire as shown on the plans	Linear Feet
607. 2332 Chain Link Fence Sliding Gate with Operator 8 ft x 14 ft	Each
607. 2336 Chain Link Fence Sliding Gate with Operator 8 ft x 24 ft	Each
607. 2338 Chain Link Fence Sliding Gate with Operator 8 ft x 28 ft	Each

- END OF SECTION -

SPECIAL PROVISION

SECTION 626 – FOUNDATIONS, CONDUIT, JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

Sub-section 626 .031 Conduit is revised by the addition of the following: All metallic conduit shall be PVC Coated Rigid Galvanized Steel (RGS).

Sub-section 626 .032 Metallic Conduit Installation is revised by the addition of the following: Metallic conduit shall be encased in concrete as shown on the plans. Concrete shall meet the requirements of Section 502 of the Standard Specifications.

Sub-section 626 .033 PVC Conduit Installation is revised by the addition of the following: PVC conduit shall be encased in concrete as shown on the plans. Concrete shall meet the requirements of Section 502 of the Standard Specifications.

Sub-section 626 .034 Concrete Foundations is revised by the deletion of “ in conformity with the dimension and details shown on the plans” and the insertion of the following ; in conformity with Standard Detail 626(02) with the exception that the top of the foundation shall extend 36” above finished grade.

Sub-section 626.05 Basis of Payment is revised by the addition of the following:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
626.212 RGS/PVC Coated Metallic Conduit, Conc. Encased	Linear Feet
626.221 Non Metallic Conduit, Concrete Encased	Linear Feet
626.37 24-inch Foundation, - Special	Each

- END OF SECTION -

SPECIAL PROVISION

SECTION 627 - PAVEMENT MARKING

The last paragraph of Subsection 627.10, basis of payment is revised by the addition of the following:

Pay Item		Pay Unit
627.619	12" Solid Yellow Pavement Marking Line	L.F.

- END OF SECTION -

SPECIAL PROVISION

SECTION 645 - HIGHWAY SIGNING

Description. This work shall include the furnishing of 4-inch by 4-inch wood posts for the purpose of supporting, warning, regulatory and street name signs as shown on the plans.

General. Wood posts shall be set to a depth of 4 feet, shall be plumb and form an angle of 93° between the roadway and the sign.

The elevation of the bottom edge of the regulatory, warning and street name sign panels shall be 6 feet above the elevation of the edge of the pavement at the sign location. The elevation of the bottom edge of these sign panels above the elevation of the edge of the pavement on all crossing or connecting roadways shall be 5 feet in rural areas. Field conditions may require some variation in elevations, as directed.

In the event that a second sign is to be placed under the main sign, the elevation of the bottom edge of the principal sign shall be a minimum of 8 feet above the outer edge of the traveled way. The bottom edge of the second sign must be at least 5 feet above the edge of the traveled way.

All wood posts shall be pressure treated to CCA 40. The top end of the wood posts shall be beveled at 22 degrees. The cut end of wood posts shall not be buried in the ground.

Backfilling around posts shall be with the excavated material. Backfill shall be thoroughly tamped in layers not exceeding 8 inches in depth.

The Contractor shall be responsible for and shall repair all damage to underground structures, utilities, or lighting conduits encountered during the placing of posts.

Method of Measurement. Wood posts will be measured by each unit in place.

Basis of Payment. The accepted wood posts will be paid for at the contract unit price each, complete and accepted in place which price shall be full compensation for furnishing all materials, labor and other incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
645.280 Wood Post	Each

- END OF SECTION -

January 29, 2004
Supercedes
December 1, 2002

SUPPLEMENTAL SPECIFICATION
SECTION 645
HIGHWAY SIGNING

Under 645.023 Support Structures, add the following to the first paragraph just prior to the last sentence:

Minimum fatigue design default values for cantilever & butterfly sign support structures shall be classified as Fatigue Category I with Fatigue Importance Factors (I_f) of 1.0 for Galloping, 1.0 for Natural Wind Gusts and 1.0 for Truck-Induced Gusts. Bridge type sign support structures supporting variable message signs (VMS) shall also use this fatigue criteria in their design.

Minimum fatigue design default values for bridge type structures, without VMS, shall be classified as Fatigue Category II with Importance Factors (I_f) of 0.65 for Galloping, 0.75 for Natural Wind Gusts and 0.89 for Truck-Induced Gusts.

Under 645 Support Structures, b. Bridge, Cantilever, and Butterfly Type Sign Supports, modify the 1st sentence in paragraph 2 to read:

“Signs shall be placed on the support structure such that the bottom edges are aligned (unless written consent from the Fabrication Engineer is obtained), while accommodating the minimum height requirement (see Subsection 645.06).

Modify the 4th sentence of paragraph 2 to read:

“This additional theoretical sign load shall be computed by: For single signs increasing the sign widths an additional 25% without changing the horizontal midpoint of the sign; For multiple signs the sign widths shall be increased 25% toward the outside sign edges. The height shall be increased 25% without changing the bottom edge elevation of the signs.”

Under 645.06 Installation of Type I Signs, b. Sign Panels, modify the 4th sentence of the 1st paragraph to read:

“Sign panels on overhead structures shall provide a minimum vertical clearance of 18 feet to the highest point of the roadway surface under the sign(s).

WD/brdgprgm

SPECIAL PROVISION

SECTION 648 – RAILROAD TRACK RECONSTRUCTION

648.01 Description. This work shall consist of removing the existing “F” track rails and cross ties to the limits shown on the drawings and installing new ballast and cross ties in order to raise the elevation of the “F” track as detailed and profiled on the plans. The existing track rails will be re-installed on the raised track bed. In addition, a new prefabricated rubber grade crossing shall be installed at a location indicated and detailed on the plans.

The work for the track reconstruction and installation of the rubber grade crossing shall comply with the latest edition of the AREMA Manual for Railroad Engineering.

648.02 Materials. The existing track rails shall be re-used for this project. New fastening spikes, cross ties, and ballast, equivalent to the size of the existing items, shall be provided where the track relocation is indicated on the plans.

The prefabricated rubber grade crossing material shall be of a design which is acceptable to the Montreal, Maine and Atlantic Railway (owner).

648.03 Construction Methods. The track reconstruction work shall be done in accordance with the lines and grades shown and detailed on the plans. The rubber crossing material and cross tie spacing throughout the crossing shall be installed in accordance with the manufacturer’s recommendation. The crossing shall protect against tie undercutting and displacement of roadway materials into the track roadbed area. The Montreal, Maine and Atlantic Railway, the operating authority which will maintain the facility, must approve the brand and design of the selected rubber grade crossing selected by the successful bidder of this proposal.

648.04 Measurement and Payment. Measurement and payment will be made by the track foot for the track relocation and rubber grade crossing. Payment shall be understood to be full compensation for all labor, equipment, materials, and incidentals necessary to complete the work as shown on the plans and described herein.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
648.5201 Reconstruct Grade Crossings, Passive	Track Foot
648.5202 Furnish and Install Rubber Railroad Crossing	Track Foot

- END OF SECTION -

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches Approach signing shall include the following signs as a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road Work Next x Miles
Road Work 500 Feet
End Road Work

Work Area At each work site, signs and channelizing devices shall be used as directed by the Resident. Signs include:

Road Work xxxx¹
One Lane Road Ahead
Flagger Sign

Other typical signs include:

Be Prepared to Stop
Low Shoulder
Bump
Pavement Ends

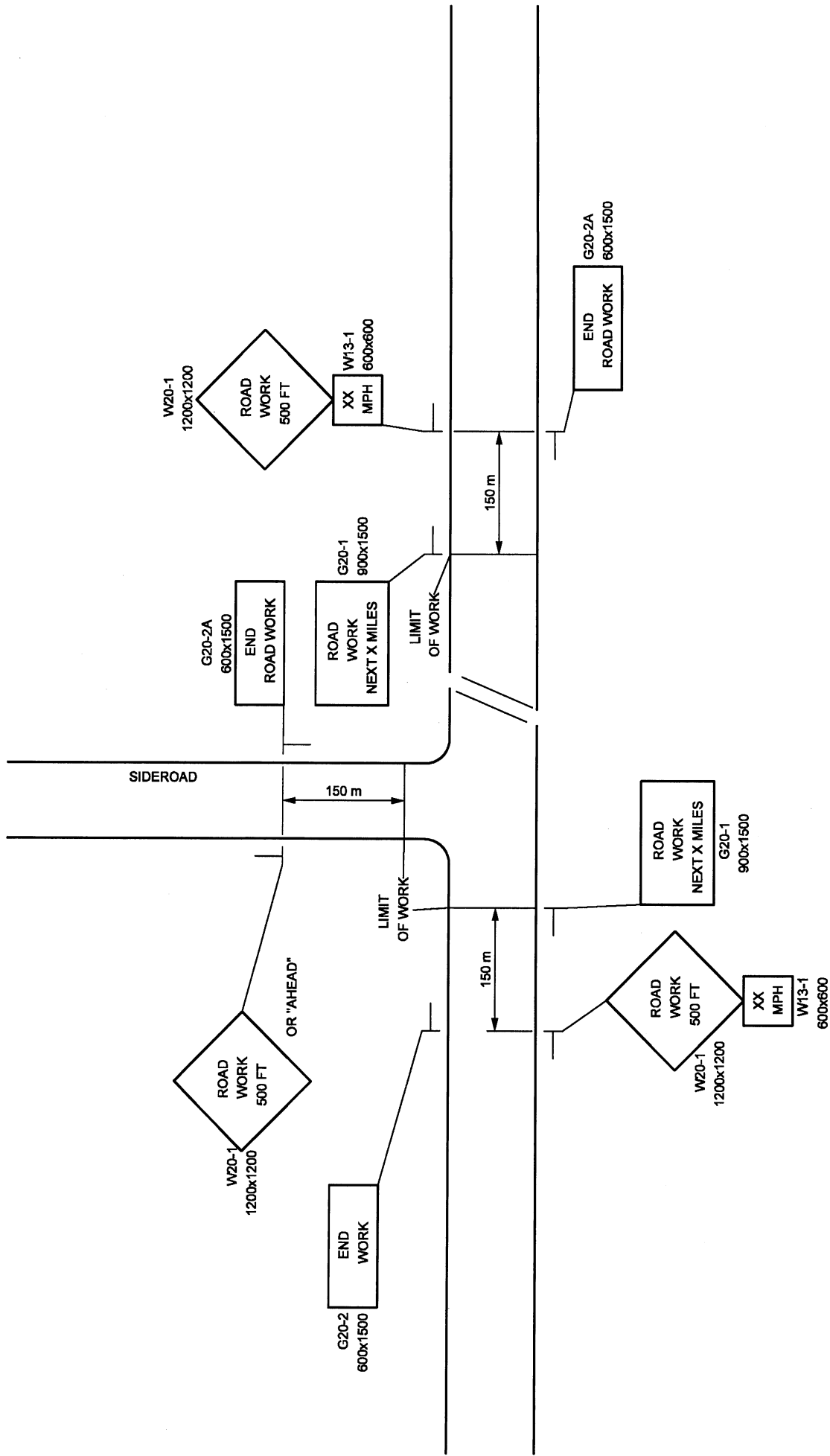
The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 800 m [2,500 ft] at each work area. Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1.6 km [1 mile] of two way operation.

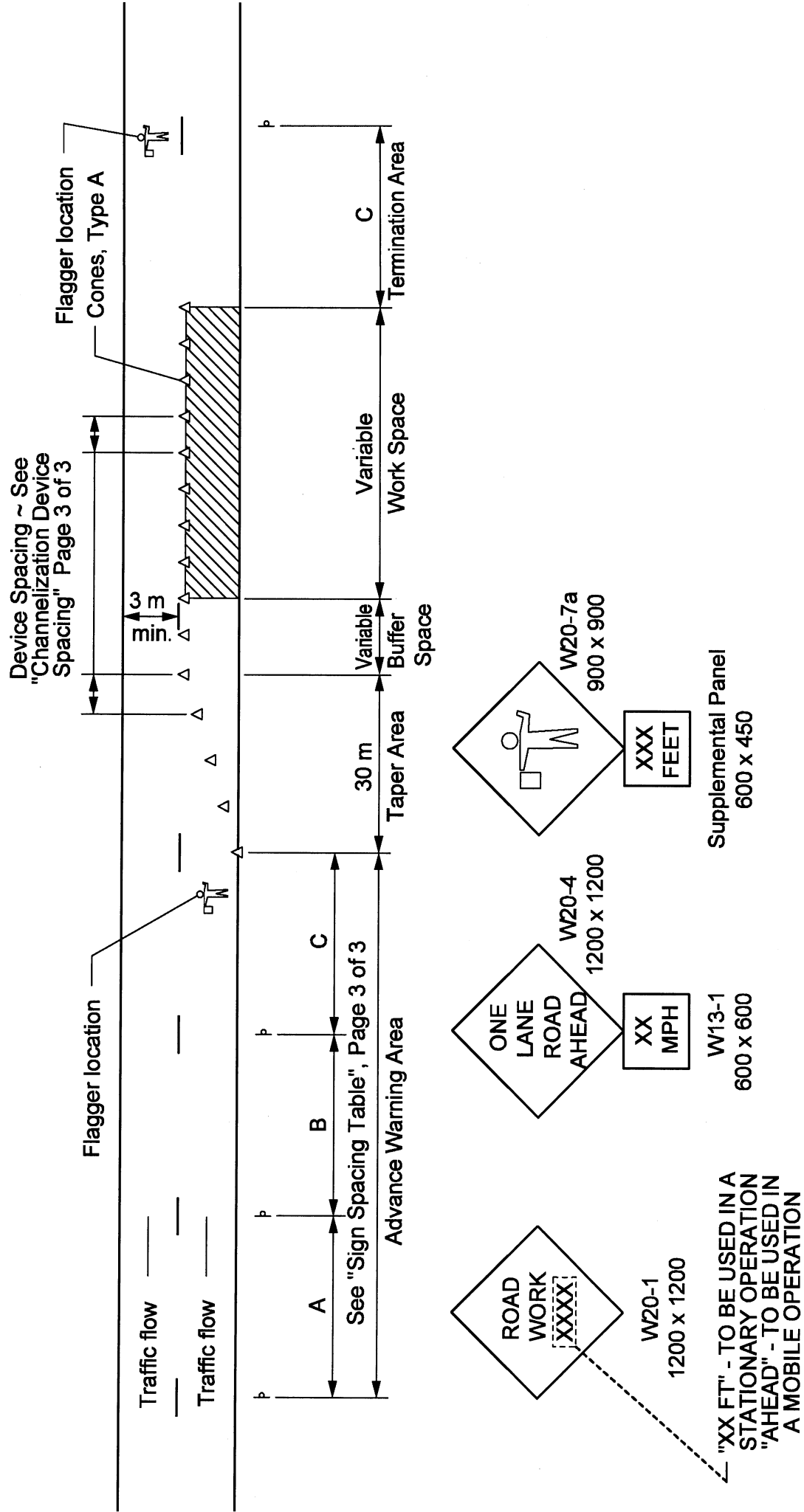
Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings.

Failure to apply a temporary centerline daily will result in suspension of paving until temporary markers are applied to all previously placed pavement.

¹ "Road Work Ahead" to be used in mobile operations and "Road Work xx ft" to be used in stationary operations as directed by the Resident.



TYPICAL -- PROJECT APPROACH SIGNING -- TWO WAY TRAFFIC



TYPICAL APPLICATION: TWO - WAY, TWO LANE ROADWAY,
CLOSING ONE LANE USING FLAGGERS

* Formulas for L are as follows:

For speed limits of 40 mph (60 km/h) or less:

$$L = \frac{WS^2}{60} \quad \left(L = \frac{WS^2}{155} \right)$$

For speed limits of 45 mph (70 km/h) or greater:

$$L = WS \quad \left(L = \frac{WS}{1.6} \right)$$

* Formulas for L are as follows:

A minimum of 5 channelization devices shall be used in the taper.

TYPE OF TAPER	TAPER LENGTH (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	100 ft (30 m) maximum
Downstream Taper	100 ft (30 m) per lane

CHANNELIZATION DEVICE SPACING

The spacing of channelization devices shall not exceed a distance equal to 1.0 times the speed limit in mph when used for taper channelization, and a distance in feet of 2.0 times the speed limit in mph when used for tangent channelization.

SIGN SPACING TABLE

Road Type	Distance Between Signs**		
	A	B	C
Urban 30 mph (50 km/h) or less	100 (30)	100 (30)	100 (30)
Urban 35 mph (55 km/h) and greater	350 (100)	350 (100)	350 (100)
Rural	500 (150)	500 (150)	500 (150)
Expressway / Urban Parkway	2,640 (800)	1,500 (450)	1000 (300)

**Distances are shown in feet (meters).

GENERAL NOTES;

1. Final placement of signs and devices may be changed to fit field conditions as approved by the Resident.

SUGGESTED BUFFER ZONE LENGTHS

Speed (mph)	Length (feet)	Speed (mph)	Length (feet)
20	115	40	325
25	155	45	360
30	200	50	425
35	250	55	495

SPECIAL PROVISION

SECTION 822 – WATER SYSTEMS

822.01 Description.

This work shall consist of constructing the waterworks system in accordance with these specifications, the Town of Searsport Water District detail plans, and in close conformity with the lines, details, and grades shown on the contract plans.

822.02 Materials.

Materials shall meet the standards of the Town of Searsport Water District as follows:

Searsport Water District

Material Specifications

The Searsport Water District (District) reserves the right to accept or reject materials when in the best interests of the District.

NOTE: Any reference to a particular standard shall mean the latest revision.

1. BLANK FLANGES

250 lbs. Class 125 bolt hole (C115/A21.15)

2. BRASS FITTINGS FOR TYPE “K” COPPER TUBING

3/4-inch through 2-inch brass fittings shall, **have a lead content as low as possible for the fitting in question. The vendor shall supply the District with the lead content of the fittings**, conforming to ANSI/AWWA C800 for type “K” soft copper shall be compression fitting on the copper end.

A. BRASS GOODS (MISCELLANEOUS)

Shall be 125 lbs., brass shall, **have a lead content as low as possible for the fitting in question. The vendor shall supply the District with the lead content of the fittings**, with iron pipe threads when used for connecting water services. Items included are bushings, couplings, elbows, nipples, plugs, and tees. Manufactured by Mueller.

B. CORPORATION STOPS

1-inch shall, **have a lead content as low as possible for the fitting in question. The vendor shall supply the District with the lead content of the fittings**, ball valve type construction with inlet CC thread and compression pack joint on the outlet, heavy patterns, and conforming to AWWA/ANSI C800. Manufactured by Mueller.

1 1/2-inch and 2-inch shall, **have a lead content as low as possible for the fitting in question. The vendor shall supply the District with the lead content of the fittings**, with inlet iron pipe thread and compression pack joint on the

outlet, heavy patterns, and conforming to AWWA/ANSI C800. Manufactured by Mueller.

C. CURB STOPS

Shall, **have a lead content as low as possible for the fitting in question. The vendor shall supply the District with the lead content of the fittings**, ball valve type, or approved equal with compression pack joints on either end. Open left, no drain, heavy patterns, and conforming to AWWA/ANSI C800. Curb stop shall be Model 300 valve with Mueller 110 Conductive Compression Connections for CTS as manufactured by Mueller.

3. COPPER TUBING

Shall be type "K" soft copper (ASTM B88).

4. COPPER METER SETTERS

Meter setters for 5/8 x 5/8-inch and 3/4-inch meters shall have compression pack joint connections on the inlet and outlet ends suitable for 3/4-inch copper tubing. Meter setters for one-inch meters shall have female iron pipe thread connections on the inlet and outlet ends. Two meter gaskets shall be supplied with each horn. Meter setters must be purchased from the District and installed by Contractor according to District Specifications.

5. DUC LUGS AND TIE BOLTS

Tie bolts with hexagonal nuts shall be Star Supply Corp. or approved equal.

Duc lug bolts shall be Star Supply Corp. or approved equal.

6. FLANGED ADAPTERS

Flanged adapter couplings shall have either a ductile iron ASTM A536 or gray iron ASTM A126 body. Bolt circle, bolt size, and spacing shall conform to ANSI 150 lbs. flange drilling. Grade 30 gasket with either a malleable iron ASTM A47 or ductile iron ASTM A536 follower. Anchor studs shall be installed for a minimum working pressure of 125 psi. Bolts and nuts shall be ductile iron ASTM A536, Rockwell 912, or approved equal.

7. HYDRANTS

Shall be compression type conforming to AWWA/ANSI C502. Hydrants approved are Mueller Super Centurion 250 meeting the following requirements:

1. Break flange construction. Flange to be located 6" above finish grade.
2. 5 1/4-inch main valve
3. Non self-draining - drain hole plugged
4. Two 2 1/2 inch hose nozzles (National Standard Thread)
5. One 4 1/2 inch pumper nozzle (National Standard Thread)
6. Inlet connection - mechanical joint
7. Inlet connection size - six inch
8. Direction of opening - left

9. Operating nut - 1 1/2 inch pentagon pattern (National Standard)
10. Trench depth - as specified
11. Hydrant color – red
12. Packing - “O” ring
13. Nozzle cap chains
14. Stainless steel nuts and bolts
15. Supplied with mechanical joint accessories, high strength low alloy steel bolts and heavy hexagon nuts conforming to ANSI/AWWA C111/A 21.11.
16. Hydrant lengths shall be field determined based on depth of main at proposed location of hydrant.

Hydrants shall be given a primer coat of paint and an enamel finish coat, both of a type specified for metal finishes. Hydrants shall be red. Hydrant extensions shall only be allowed where the overall length of the hydrant exceeds 8’-6”. All hydrant extensions shall be manufactured by Mueller.

8. HYDRANT TEE’S

Mechanical joint Hydrant tee’s shall be used with all hydrants and conform to AWWA C-153, C-111, and C-104. Tie rodding will not be allowed.

9. PIPE

Pipe shall be concrete lined ductile iron Class 52 for all sizes.

Ductile iron: (2-inch diameter and larger). Pipe shall be ductile iron centrifugally cast with push-on joints conforming to AWWA/ANSI C151/A21.51. Pipe shall be Class 52, double cement lined and bituminous coated conforming to AWWA/ANSI C104/A21.4. Ten (10) percent of the pipe shall be suitable for field cutting and marked as such. In areas of corrosive soils, as determined by District, Contractor shall provide 8ml polyethylene encasement of ductile iron pipe in the field. In areas of hydrocarbon contaminated soils, as determined by District, Contractor shall provide hydrocarbon resistant gaskets.

10. PIPE COUPLINGS

Sleeve shall be ductile iron ASTM A536, and shall have smooth inside taper for uniform gasket seating. Gasket shall be grade 30. Follower flanges shall be ductile cast iron ASTM A536. Bolts shall be high strength low alloy steel with heavy, semi-finished hexagon nuts to ANSI/AWWA C111/A21.11 standards.

OD range shall be approved by the Searsport Water District. Mueller coupling or approved equal.

11. PIPE FITTINGS

Pipe fittings shall have mechanical joint ends conforming to ANSI/AWWA C1/A21.11, double cement lining and bituminous coating conforming to ANSI/AWWA C104.A21.4.

Fittings shall be supplied with mechanical joint accessories unless specified others, with high strength low alloy steel bolts and heavy hexagon nuts conforming to ANSI/AWWA C111.A21.11.

Long body fittings shall be Class 350 ductile iron conforming to ANSI/AWWA C110/A21.10.

Compact body fittings shall be Class 350 ductile iron conforming to ANSI/AWWA C153/A21.53.

Fittings shall be manufactured in North America.

12. REPAIR SLEEVES

Shall have single band of 304 stainless steel with malleable iron ASTM A47 grade 32510 lugs, grade 30 gasket and 316 stainless steel bolts and nuts conforming to bolt and nut dimensions included in AWWA/ANSI C111.A.21.11.

13. RETAINER GLANDS

Mechanical joint retainer glands shall be Mega lug series 1100 heavy duty ductile iron body, constructed according to ASTM A536 65-45-12 ductile iron for use on water mains and tested in accordance with AWWA C600.

Mega lugs are not a replacement for thrust blocks. **Manufactured in North America.**

14. SERVICE BOXES, COVERS, AND RODS

Service boxes shall be Erie style with arch pattern, one-inch in diameter, constructed from SC #40 Black Steel, adjustable in length from six feet to seven feet, and have 5/8-diameter stainless steel rod 36-inches in length with stainless pins. One-inch caps shall be extra heavy with brass pentagon plug and coarse "rope" thread to fit a one-inch Erie style box. All caps shall have the word "WATER" clearly cast in top and be constructed of a magnetic material.

15. SERVICE BOX FOOT PIECE

Service box foot pieces shall be cast iron and fit all standard one-inch Erie style service boxes and fit over curb stops larger than one inch.

16. SERVICE SADDLES

Shall be constructed of ductile iron with epoxy or nylon coating and with stainless steel bands, nuts, and washers. Body casting shall be wrap-around design of high tensile ductile iron conforming to ASTM A536. Gasket shall be of 3 1/2-inch diameter and constructed of Buna-N, grooved to conform to pipe surface and bonded in place for easy installation. Finish shall be NCA-1477 nylon fused coat, 10-12 mils thickness, with approximate dielectric strength of 1,000 V/mil or epoxy coated. Ford 202N or approved equal.

17. TAPPING SLEEVES

Mechanical joint ductile iron tapping sleeve: shall have mechanical joint end seals conforming to AWWA C111, with outlet flange conforming to AWWA C207, class D with ANSI 150 lb. drilling recessed for tapping valve. Tapping sleeve

shall fit AWWA standard of 1908, Class AB-CD cast iron pipe. Manufactured by Mueller, or approved equal. Acceptable for cast iron and ductile iron pipe.

Gasket material shall be grade 30 or approved equal, and shall have a smooth inside taper for uniform seating. Acceptable for ductile iron pipe.

18. TAPPING VALVES

Tapping valves shall be epoxy coated with 200 psi working pressure, non-rising stem, "O" ring, open left, flanged end conforming to AWWA C207, Class D, ANSI 150 lb. drilling, mechanical joint end conforming to AWWA C111, two-inch ductile iron operating nut with stainless steel bolt, metropolitan design conforming to AWWA C500 or resilient seated gate valve conforming to ANSI/AWWA C509, manufactured by Waterous Series 500, Mueller A2360, or approved equal.

Tapping valves shall be supplied with mechanical joint accessories, and 316 stainless steel bolts and nuts conforming to bolt and nut dimensions included in ANSI/AWWA C111/A21.11.

Tapping valve seal plates and bonnets shall have 316 stainless steel bolts and nuts.

19. VALVES

Valves shall be epoxy coated and supplied with mechanical joint accessories, 316 stainless steel bolts and nuts conforming to bolt and nut dimensions included in ANSI/AWWA C111.A21.11.

Valve seal plate and bonnet shall have 316 stainless steel bolts and nuts.

Butterfly Valve: (Where approved by Utility). Shall be a valve with a steady state working pressure of 150 psig, and a maximum steady-state differential pressure of 150 psi, open left, mechanical joint ends, non-rising stem, two-inch ductile iron operating nut with 316 stainless steel bolt, conforming to AWWA/ANSI C504. Manufactured by Mueller or approved equal.

Gate Valve: Shall be 200 psi working pressure, non-rising stem, "O" ring, open left, mechanical joint, two-inch ductile iron operating nut with 316 stainless steel bolt, resilient seated gate valve conforming to ANSI/AWWA C509, manufactured by Waterous Series 500, Mueller A 2360, or approved equal.

20. VALVE BOXES

Shall be cast iron, **manufactured in USA or Canada**, two piece, sliding type with a non-flange top section, no inside stops, and an outside shaft diameter of six inches. Bottom section shall be belled base. Length of top section shall be minimum of 24 inches. Middle and bottom section length as needed. Boxes shall have the word "WATER" clearly cast into the cover.

END OF SWD Materials Standards

21. CARRIER PIPE

A. The 8-inch diameter carrier line pipe and joints shall be of the same materials as specified herein under items 9 and 11.

- B. The pipe shall be laid with sufficient slack so that it is not in tension.
- C. The pipe shall have blocking sufficient to center it within the casing pipe.
- D. After installation of the carrier pipe, the space between the casing pipe and carrier pipe shall be completely filled with sand.

22. CASING PIPE

- A. The 16-inch diameter steel sleeve casing pipe and joints shall be leakproof construction, capable of withstanding railroad (E80) loading, and shall have a wall thickness of not less than 0.281 inches. The pipe shall have a minimum yield strength, SMYS, of at least 35,000 psi.
- B. The steel sleeve casing pipe shall be painted inside with two coats of Bitumastic Super Service Black as manufactured by Koppers, Tar-Jet Super Black 32-B-22 as manufactured by Pennsbury Paints, 46-413 Tneme-Tar as manufactured by Tnemec Company, Inc. or equal prior to delivery to the job. The joints shall be completely welded around the circumference of the pipe.

23. POLYETHYLENE ENCASEMENT

- A. High-density, cross-laminated polyethylene film shall be manufactured of virgin polyethylene material conforming to the following:
 - 1. Raw material requirements per ASTM D4976
 - Group: 2 (Linear)
 - High-density: 0.940 to 0.960 g/cm³
 - Dielectric strength: Volume resistivity, 10¹⁵ ohm-cm, minimum
 - 2. Physical properties of finished film.
 - Tensile strength: 6,300 psi (43.4) Mpa), minimum in machine and transverse direction (ASTM D882)
 - Elongation: 100 percent, minimum in machine and transverse direction (ASTM D882)
 - Dielectric strength: 800 V/mil (31.8 V/um) thickness, minimum (ASTM D149)
 - Impact resistance: 800 g, minimum (ASTM D1709 Method B)
 - Propagation tear resistance: 250 gf, minimum in machine and transverse direction (ASTM D1922)
 - 3. Thickness. High-density, cross-laminated polyethylene film shall have a minimum thickness of 0.004 in. (4 mil or 100 um).
- B. Color. Polyethylene film may be supplied with its natural color, colors, including white and black, or black (weather-resistant) containing not less than 2 percent carbon black with an average particle diameter of 50 mm or less. A minimum of 2 percent of a hindered-amine ultraviolet inhibitor is required in any natural or colored film except black film containing 2 percent or more carbon black.
- C. Tube size or sheet width for each pipe diameter shall be as listed in the following table.

Nominal Pipe	Diameter	Minimum Polyethylene	Width-in.(cm)
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in.	(mm)	Flat Tube		Sheet	
6	(152)	16	(41)	32	(81)
8	(203)	20	(51)	40	(102)
12	(305)	27	(69)	54	(137)

D. Marking requirements. The polyethylene film supplied shall be clearly marked, at a minimum of every 2-ft along its length, containing the following information:

1. Manufacturer's name or trademark.
2. Year of manufacture.
3. ANSI/AWWA C105/A21.5.
4. Minimum film thickness and material type (LLDPE or HDCLPE).
5. Applicable range of nominal pipe diameter size(s).
6. Warning-Corrosion Protection-Repair Any Damage.

E. Marking height. Letters and numerals used for marking items 1-5 through in Section E (above) shall not be less than 1 in. in height. Item 6 in Section E shall be not less than 1 ½ in. in height.

F. Warranty.

1. Prior to the start of work, a written material warranty shall be obtained from the manufacturer of the polyethylene material. The materials shall be warranted in writing by the manufacturer against manufacturing and installation defects and deterioration due to ozone, UV rays and normal wear and weathering for a period of twenty (20) years. Terms of warranty shall apply to the cost of materials only, applied on a pro-rata basis from the date of acceptance of work by the Engineer.

822.03 Construction Methods.

1. All excavation and backfilling for waterwork items to be installed in this project shall comply with the appropriate provisions of Section 603 of the Standard Specifications.
2. Installation of the Steel Sleeve casing pipe within the railroad right-of-way shall be done by "open-trench method" which shall comply with Part 4, Culverts, Section 4.12 Assembly and Installation of Pipe Culverts of the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering.
3. Thrust Blocks and Pipe Anchors. Reaction or thrust blocks of concrete shall be constructed at all tees, plugs, and bends as directed or as detailed on the drawings with Cement Concrete Masonry. The blocks shall be poured against undisturbed original ground and shall be so placed that pipe joints will be accessible for any possible future repairs. Yokes and tie-rods shall be installed in addition to or in lieu of thrust blocks. Pipe anchors shall be used when and as directed

4. Testing. After completion, the trenches shall be partially backfilled leaving the joints exposed for examination, and pipe line then subjected to a hydrostatic pressure of 50 percent above the normal operating pressure. The pipe shall be tested between points as designated by the Engineer by slowly filling the test section with water by means of a pump connected to the pipe but not before the pipe has been relieved of air through taps made where required. Any defects in the pipe or joints revealed by this pressure test shall be repaired or replaced and the pipe line again subjected to a hydrostatic pressure test as described above for possible leakage over the allowable limits. Pump, connections, gauges and a measuring device shall be furnished by the Contractor. The pressure test shall be maintained for at least 2 hours during which time all exposed joints, fittings, valves and hydrants will be carefully examined.

No pipe installation will be accepted until the leakage during a 2 hour test period measured by pumping at the specified test pressure from a calibrated container into the section of pipe being tested is less than that determined by the Town of Searsport Water District.

Any defective joints, and any defects in new pipe fittings, valves or hydrants revealed during the leakage test or before final acceptance of the project shall be removed and replaced with other new material and again tested until the work is satisfactory, with no additional compensation.

5. Disinfection. After testing has been successfully completed, the water mains shall be disinfected in accordance with the AWWA Standard Procedure C601 and any additional requirements of the Town of Searsport Water District.
6. Installing Polyethylene Encasement.
 - A. General. The polyethylene encasement shall prevent contact between the pipe and the surrounding backfill and bedding material, but it is not intended to be a completely airtight or watertight enclosure. All lumps of clay, mud, cinders, etc., on the pipe surface shall be removed prior to installation of the polyethylene encasement. During installation, soil or embedment material shall not be trapped between the pipe and the polyethylene.

The polyethylene film shall be fitted to the contour of the pipe creating a snug, but not tight, encasement with minimum space between the polyethylene and the pipe. Sufficient slack shall be provided in contouring to prevent stretching the polyethylene where it bridges irregular surfaces, such as bell-spigot interfaces, bolted joints, or fittings and to prevent damage to the polyethylene caused by backfilling operations.

Overlaps and ends shall be secured with adhesive tape, or plastic tie straps.

For installation below the water table or in areas subject to tidal actions, tube-form polyethylene should be used with both ends thoroughly sealed with adhesive tape or plastic tie straps at the joint overlap. Also, circumferential wraps of tape should be placed at 2 ft (0.6 m) intervals along the barrel of the pipe to minimize the space between the polyethylene and the pipe.

B. Pipe. This standard includes three methods of installation of polyethylene encasement on pipe. Methods A and B are for use with polyethylene tubes, and Method C is for use with polyethylene sheets.

1. Method A. Cut polyethylene tube to a length approximately 2 ft (0.6m) longer than the pipe section. Slip the tube around the pipe, centering it to provide a 1-ft (0.3-m) overlap on each adjacent pipe section and bunching it accordion-fashion lengthwise until it clears the pipe ends.

Lower the pipe into the trench and make up the pipe joint with the preceding section of pipe. A shallow bell hole must be made at the joints to facilitate installation of the polyethylene tube.

After assembling the pipe joint, make the overlap of the polyethylene tube. Pull the bunched polyethylene from the preceding length of pipe, skip it over the end of the new length of pipe, and secure it in place. Then slip the end of the polyethylene from the new pipe section over the end of the first wrap until it overlaps the joint at the end of the preceding length of pipe. Secure the overlap in place. Take up the slack width at the top of the pipe to make a snug, but not tight, fit along the barrel of the pipe, securing the fold at quarter points.

Cuts, tears, punctures, or other damage to the polyethylene shall be repaired as described in Section E. Proceed with the installation of the next section of pipe in the same manner.

2. Method B. Cut polyethylene tube to a length approximately 1 ft (0.3 m) shorter than that of the pipe section. Slip the tube around the pipe, centering it to provide 6 in. (150 mm) of bare pipe at each end. Take up the slack width at the top of the pipe to make a snug, but not tight, fit along the barrel of the pipe, securing the fold at quarter points. Secure the ends as described in Section A.

Before making up a joint, slip a 3-ft (0.9-m) length of polyethylene tube over the end of the preceding pipe section, bunching it accordion-fashion lengthwise. Alternatively, place a 3-ft (0.9-m) length of polyethylene sheet in the trench under the joint to be

made. After completing the joint, pull the 3-ft (0.9-m) length of polyethylene over or around the joint, overlapping the polyethylene previously installed on each adjacent section of pipe by at least 1 ft (0.3 m). Make each end snug and secure as described in Section A. A shallow bell hole is necessary and shall be made at joints to facilitate the installation of the polyethylene tube or sheet.

Cuts, tears, punctures, or other damage to the polyethylene shall be repaired as described in Section E. Proceed with the installation of the next section of pipe in the same manner.

3. Method C. Cut polyethylene tube to a length approximately 2 ft (0.6 m) longer than that of the pipe section. Center the cut length to provide 1-ft (0.3-m) overlap on each adjacent pipe section, bunching it until it clears the pipe ends. Wrap the polyethylene around the pipe so that it circumferentially overlaps the top quadrant of the pipe. Secure the cut edge of polyethylene sheet at intervals of approximately 3 ft (0.9 m).

Lower the wrapped pipe into the trench and make up the pipe joint with the preceding section of pipe. A shallow bell hole is necessary and shall be made at the joints to facilitate installation of the polyethylene. After completing the joint, make the overlap and secure the ends as described in Section A.

Cuts, tears, punctures, or other damage to the polyethylene shall be repaired as described in Section E. Proceed with the installation of the next section of pipe in the same manner.

- C. Pipe-shaped appurtenances. Bends, reducers, offsets, and other pipe-shaped appurtenances shall be covered with polyethylene in the same manner as the pipe.
- D. Odd-shaped appurtenances. When it is practical to wrap valves, tees, crosses, and other odd-shaped pieces in a tube, wrap with a flat sheet or split length of polyethylene tube by passing the sheet under the appurtenance and bringing the sheet around the body. Make seams by bringing the edges of the polyethylene sheet together, folding them over twice, and taping them. Handle width and overlaps at joints as described in Section B.1. Tape the polyethylene securely in place at the valve stem and other penetrations.
- E. Repairs. Repair cuts, tears, punctures, or damage to polyethylene with adhesive tape or with a short length of polyethylene sheet, or with a tube

cut open, wrapped around the pipe to cover the damaged area and secured in place.

- F. Openings in encasement. Provide openings for branches, service taps, blowoffs, air valves, and similar appurtenances by cutting an "X" in the polyethylene and temporarily folding back the film. After the appurtenances is installed, tape the slack securely to the appurtenance, and repair the cut and any other damaged areas in the polyethylene with tape. Direct service taps may also be made through the polyethylene, with any resulting damage areas being repaired as described previously. To make direct service taps, apply two or three wraps of adhesive tape completely around the polyethylene encased pipe to cover the area where the tapping machine and chain will be mounted. This method minimizes possible damage to the polyethylene during the direct tapping procedure. After the tapping machine is mounted, the corporation stop is installed directly through the tape and polyethylene. This method is very effective in eliminating damage to the polyethylene encasement caused by the tapping machine and chain during the tapping operation. After the direct tap is completed, the entire circumferential area shall be closely inspected for damage and repaired if needed.

- G. Junctions between wrapped and unwrapped pipe. Where polyethylene wrapped pipe joins an adjacent pipe that is not wrapped, extend the polyethylene wrap to cover the adjacent pipe for a distance of at least 3 ft (0.9 m). Secure the end with circumferential turns of adhesive tape.

Service lines of dissimilar metals shall be wrapped with polyethylene or a suitable dielectric tape for a minimum clear distance of 3 ft (0.9 m) away from the ductile-iron pipe.

- H. Backfill for polyethylene-wrapped pipe. Use the same backfill material as that specified for pipe without polyethylene wrap, exercising care to prevent damage to the polyethylene wrapping when placing backfill. Backfill material shall be free from cinders, refuse, boulders, rocks, stones, or other material that could damage the polyethylene. In general, backfilling practice should be in accordance with the latest revision of ANSI/AWWA C600.

- I. Inspection and Certification by Manufacturer

1. Quality control and inspection. The manufacturer shall establish the necessary quality control and inspection practice to ensure compliance with this standard.
2. Manufacturer's statement. The manufacturer shall, if required, by the purchaser's specifications, provide a sworn statement that the inspection and all applicable material requirements of Section

822.02 have been met and that all results comply with the requirements of this standard.

3. Freedom from defects. All polyethylene film shall be clean, sound, and without defects that could impair service.

822.04 Method of Measurement.

Water pipe, including the carrier pipe inside the casing pipe under the railroad, will be measured in place along the axis of the pipe without deduction for the space occupied by valves, excluding however, the length occupied by new fittings. Where two pipes join, measurement will be made to the intersection of the axes, excluding the length occupied by new fittings.

Fittings, consisting of bends, tees, caps, wyes, sleeves, reducers, increasers, blow-off fittings and other special fittings, applies only when new materials are necessary and which are not specifically provided for under other items in the Proposal. When new fittings are measured for payment under the pound price for Item 823.30, the length occupied by the fittings will not be measured for payment under the linear foot items.

The fittings (excluding accessories comprising Rings, Gaskets, Bolts, Nuts, Washers and Clamps) will be measured by the pound and the quantity to be paid for shall be the weight stated on the invoice of the supplier or the manufacturer's rated weight as listed in the catalog whichever is the lesser.

For new special fittings not listed in the catalog the weight payable will be the invoice weight. The Contractor shall furnish a copy of the Manufacturer's catalog at the start of work.

Polyethylene encasement will be measured by the foot under the appropriate water pipe encasement item.

Casing pipe for the water carrier pipe under the railroad will be measured by the foot under the appropriate pipe item.

Thrust blocks, where required, shall be included in the contract unit price for the relevant waterworks item.

822.05 Basis of Payment.

Water system work will be paid for at the contract unit price under the respective items for the kind of work involved as set forth in the Proposal.

New yokes and tie-rods will be paid for at the contract unit price per pound under Item 823.30.

Payment for the restoration of surfaces over trenches shall be made at the contract unit price for the kind of materials used.

Casing pipe for the water carrier pipe under the Railroad Right-of-Way will be paid for at the contract unit price per linear foot.

Excavation for water systems, including excavation below the pipe for bedding, and backfilling will be measured and paid for as provided in Section 206 – Structural Excavation.

Thrust blocks, where required, will not be measured for payment, but will be considered incidental to the installation of the water system.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
625.082 1" Copper Tubing	Linear Foot
625.086 2" Copper Tubing	Linear Foot
822.33 6" Class 52 DI Water Pipe	Linear Foot
822.34 8" Class 52 DI Water Pipe	Linear Foot
822.36 12" Class 52 DI Water Pipe	Linear Foot
822.362 Polyethylene Encasement for Ductile Iron Pipe	Linear Foot
822.40 6" Coupling	Each
822.41 8" Coupling	Each
822.42 1" Coupling	Each
823.30 Ductile Iron Fittings for Water Pipe	Pound
823.311 12" Gate Valve w/Box	Each
823.3251 8" Gate Valve w/Box	Each
823.3253 10" Tapping Sleeve & 10" Gate Valve w/Box	Each
823.33 6" Gate Valve w/Box	Each
824.30 Fire Hydrants	Each
824.31 Remove Fire Hydrant	Each
824.32 Remove/Reset Fire Hydrant	Each
825.1495 Railroad Crossing Sleeve	Linear Foot
825.32 2" Corporation	Each
825.322 2" Curb Stop w/Box	Each
825.33 1" Corporation	Each
825.331 1" Curb Stop w/Box	Each

SPECIAL PROVISION

SECTION 825 – SPECIAL WATER SERVICE FACILITY

825.01 Description. This work shall consist of constructing the water service enclosure and all water service work routed to the Sprague Energy access shaft chamber and utility tunnel in accordance with these specifications, the Town of Searsport Water District Requirements, and in close conformity with the lines, details and grades shown on the contract plans.

825.02 Materials. Materials shall meet the Town of Searsport Water District Materials Specifications located in Section 822 – Water Systems of these Special Provisions and the following:

1. Portland cement concrete for the enclosure pad shall be class LP and meet the requirements of Section 502 – Structural Concrete.
2. The enclosure, certified to ASSE 1060, shall be of min. .050" tk. reinforced stucco embossed aluminum sheeting (with optional .063" tk.), providing access through removable doors and being totally removable for maintenance purposes. A modular design with "tongue and groove" sections is required, with no panels requiring job site assembly allowed. In four or more piece enclosures over 70" wide, sections shall be secured together with mechanical "roto locks" of latch and receptacle configuration. Wood or "particle board" framing shall be cause for rejection. Enclosures over 80" wide will utilize internal aluminum extruded roof beams the full width of the enclosure for support. Enclosures over 150" wide will utilize adjustable floor to roof support jacks in addition to the roof beams. Insulation shall be min. 2" tk. (R 13), uni-cellular, non-wicking, polyisocyanurate, sprayed in place (not glued or pinned) to form a monolithic bond with metal framing and skin. Drains shall be sized for full port backflow discharge and designed for "one way" exit, inhibiting intrusion of debris and/or vermin. Enclosure shall be anchored to a concrete slab from within the enclosure w/steel anchors and be lockable for security purposes.

Heat source, piping, units, thermometers, and other appurtenances required to protect the piping and equipment inside the enclosure from exterior temperatures, will be furnished and installed by Sprague Energy Company personnel.

3. Aggregate for Crushed Stone shall meet the requirements of Section 703.12 – Aggregate for Crushed Stone Surface.

825.03 Construction Methods.

1. All excavation and backfilling for the in-ground waterworks items to be installed under this lump sum item shall comply with the appropriate provisions of Section 603 of the Standard Specifications.
2. Installation of the enclosure and all associated piping shall be installed in accordance with the details shown on the contract drawings.
3. The work includes coring the concrete wall of the existing access chamber wall, and installing the 6-inch ductile iron pipe into the facility and all 3-inch and 4-inch water service pipe necessary to connect to the existing 3-inch and 4-inch water service distribution piping to the Sprague Energy facility.

825.04 Method of Measurement. The Special Water Service Facility will be measured for payment by the lump sum, in place.

825.05 Basis of Payment. The Special Water Service Facility will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to excavation, backfilling, compacting, concrete work, enclosure, piping, backflow preventors, meters, and all appurtenances and incidentals required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation. Coordination with Sprague Energy Company personnel, responsible for providing a heat source for the enclosure, is also included in the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
825.343 Special Water Service Facility	Lump Sum

- END OF SECTION -

SPECIAL PROVISION

SECTION 841 – BOLLARDS AND GUIDE POSTS

841 .01 Description. Install bollards and guide posts as shown on the plans

841.02 Materials. Steel Pipe shall meet ASTM A 53, Type E or S, Grade B, weight class Standard. Concrete shall meet the requirements of Section 502 of the Standard Specifications. Coating shall be factory formulated rust inhibitive metal primer for exterior application and full gloss (yellow) waterborne acrylic-latex enamel for exterior application.

841.03 Method of Measurement. The bollards and guide posts shall be measured by each unit.

841.05 Basis of Payment. The bollards and guide post will be paid for at the contract unit price each complete in place.

Payment will be made under item:

<u>Pay Item</u>	<u>Pay Unit</u>
841.47 Steel Bollard	Each
841.471 Steel Guide Post	Each

- END OF SECTION -

SPECIAL PROVISION

SECTION 844 – SITE LIGHTING SYSTEM

844 .01 Description Provide, furnish and install light Poles, Luminaires and twin 90 degree Support Mounts as shown on the plans.

844.021 Materials shall meet the requirements as shown on the plans. Acceptable Manufacturers are Lithonia, Holophane and Widelite lighting systems.

844.03 Construction Requirements.

Upon the completion of the installation, each lamp shall be energized and the complete system shall be tested with the controls shown on plan.

844.04 Method of Measurement.

The Site Lighting System shall be measured as a complete system in place and shall include all light Poles, Luminaires and twin 90 degree Support Mounts, branch circuit wiring, controls, control wiring, anchor bolts and all other incidentals necessary to provide a fully tested and operational site lighting system.

844.05 Basis of Payment.

The accepted poles, luminaires and mounts will be paid for as one complete system, as specified on plans, installed in place and fully operational.

Payment will be made under item:

<u>Pay Item</u>	<u>Pay Unit</u>
844.19 Site Lighting System	Lump sum

- END OF SECTION -

SPECIAL PROVISION

SECTION 846- CCTV SYSTEM

846 .01 Description Provide, furnish and install remote cameras, weatherproof housings, wireless transmitters and receivers, monitor and utility poles as shown on the plans.

846.02 Materials shall meet the requirements as shown on the plans. Acceptable Manufacturers are American Dynamics, Philips and Smartsight CCTV component systems.

846.03 Construction Requirements.

Upon the completion of the installation, each camera shall be energized and the complete system shall be tested.

846.04 Method of Measurement.

The CCTV System shall be measured as a complete system installed in place. The CCTV system shall include all remote cameras, weatherproof housings, wireless transmitters and receivers, CCTV monitor, branch circuit wiring, low voltage controls, low voltage control wiring, video (coax) cabling, mounting brackets, utility poles and all other incidental equipment necessary to provide a fully tested and operational CCTV system.

846.05 Basis of Payment.

The accepted CCTV equipment will be paid for as one system for the components specified, installed as shown on the plans and fully operational.

Payment will be made under item:

<u>Pay Item</u>	<u>Pay Unit</u>
846.19 CCTV System	Lump sum

- END OF SECTION -

SPECIAL PROVISION

SECTION 815 – SECURITY ENTRANCE BUILDING

The work listed in Special Provisions labeled as 02732; 03000; 06000; 07000; 08000; 09000; 10000; 15412; 15500; 16000; 16010; 16030; 16111; 16120; 16134; 16141; 16147; 16450; 16580; 16741; 16913 and 16921 shall comprise all of Section 815 – Security Entrance Building.

SPECIAL PROVISION
SECURITY BUILDING

SECTION 02732 - SANITARY SEWER

PART 1 GENERAL

1.01 WORK INCLUDED

- A. The Work includes furnishing all plant, labor and materials for all sanitary sewerage systems.

1.02 RELATED WORK

- A. Section 15000 - Plumbing

PART 2 PRODUCTS

2.01 MATERIALS – WATER TIGHT HOLDING TANK

A. Standards:

- 1. Concrete: 5000 psi minimum strength @ 28 days
- 2. Steel Reinforcement: ASTM A-615, Grade 60
- 3. Cover to Steel: 1-inch minimum
- 4. Tank shall meet ASTM C858 and ACI 318 with AASHTO M-20 loading

B. Construction Joints:

- 1. 1-inch diameter butyl rubber or equivalent

C. Fittings and Accessories:

- 1. Frame: Heavy Duty
- 2. Cover: Heavy Duty, Shall Read Sanitary Sewer
- 3. Metal shall conform to ASTM A48-83 Class 35B

4. Cover shall be self-sealing and watertight.

Method of Measurement

Tank will be measured by unit in place.

Basis of Payment

The work described in this section will be paid for as complete and accepted in place which shall include furnishing all materials, labor and other incidentals necessary to complete the work. No separate payment will be made for the work in this section.

Payment will be made under:

Pay Item

Pay Unit

815.301 Security Entrance Building

Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 03000 – CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Codes and Standards: ACI 301 "Specifications for Structural Concrete for Building" and ACI 318 "Building Code Requirements for Reinforced Concrete". Comply with applicable provisions except as otherwise indicated.

1.02 SUBMITTALS

- A. Submit mix design and strength results for approval.
- B. Submit shop drawing for fabrication bending details and placement of all reinforcing steel.

PART 2 PRODUCTS

2.01 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II.
- B. Normal Weight Aggregates: ASTM C33, graded, ¾-inch nominal maximum coarse-aggregate size.
- C. Water: ASTM C 94 and potable.
- D. Air-Entraining Admixture: ASTM C 260.

2.02 CONCRETE MIXES

- A. Mix Proportions and Design: Proportion mixes complying with mix design procedures specified in ACI 301.
- B. Design Mix for concrete:
 - 1. Minimum 28-day compressive strength: 4000 psi.
 - 2. Maximum water/cement ratio: 0.45.

3. Minimum cement content: 611 pounds per cubic yard.
 4. Slump: 2 to 4 inches.
 5. Maximum aggregate size: 3/4".
 6. Air content: 6% " 1% by volume.
- C. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Engineer before using in work.

2.03 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surf aces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient stiffness to withstand pressure of newly-placed concrete without bow or deflection.
- B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- C. Form Coatings: Provide commercial formulation form coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

2.04 RELATED MATERIALS

- A. Deformed Reinforcing Bars: ASTM A 615, Grade 60.
- B. Welded Wire Fabric: ASTM A 185, flat sheets.
- C. Ready-Mix Concrete: ASTM C94.
- D. Joints: Provide construction, isolation, and control joints as indicated or required. Locate construction joints so as not to impair strength and appearance of structure.

- E. Plastic Vapor Retarder: ASTM E 1745, Class C. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.

PART 3 EXECUTION

3.01 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

3.02 EMBEDDED ITEMS

- A. Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in place concrete. Use setting diagrams, templates and instructions provided by others for locating and setting.

3.03 VAPOR RETARDER

- A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions. Lap joints 6 inches and seal with manufacturer's recommended tape.

3.04 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

3.05 CONCRETE PLACEMENT

- A. Comply with ACI specifications, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is completed.
- B. Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into forms.
- C. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement and curing.
- D. In cold weather, comply with ACI 306. In hot weather, comply with ACI 305.

3.06 CONCRETE FINISHES AND CURING

- A. Slab Trowel Finish: Apply steel trowel finish to monolithic slab surfaces that are exposed-to-view or are to be covered with resilient flooring, paint or other thin film coating. Consolidate concrete surfaces by finish troweling, free of trowel marks, uniform in texture and appearance.
- B. Begin initial curing as soon as free water has disappeared from exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing for minimum of 7 days by use of moisture retaining cover or membrane-forming curing compound. Cure formed surfaces by moist curing until forms are removed. Provide protections as required to prevent damage to exposed concrete surfaces.
- C. Make saw cut joints where indicated as soon as possible after slab finishing has been completed without dislodging aggregate.

3.07 TESTING AND INSPECTION

- A. Sample and test concrete in accordance with ACI 301. Provide minimum of four cylinders for lab curing.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

<u>Pay Item</u>	<u>Pay Unit</u>
815.301 Security Entrance Building	Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 06000 - WOOD AND PLASTIC

PART 1 GENERAL

1.01 SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses.
- B. Product Data: For each type of process and factory-fabricated product indicated.

PART 2 PRODUCTS

2.01 ROUGH CARPENTRY

- A. Dimension Lumber
 - 1. General: Provide dimension lumbers of grades indicated according to ALSC National Grading Rule (NGR) provisions of inspection agency indicated.
 - 2. Non-Load-Bearing Interior Partitions
 - a. Grade: Stud.
 - b. Species: Hem-fir north; NLGA.
 - 3. Framing Other than Non-Load-Bearing Partitions
 - a. Grade: Construction or No. 2.
 - b. Species: Hem-fir north; NLGA.
 - 4. Exterior and Load-Bearing Walls
 - a. Any species of machine stress-rated (MSR) dimension lumber with 1450f-1.3E grade, or as otherwise indicated on Drawings.
- B. Miscellaneous Lumber

1. Provide wood for support or attachment of other Work including bucks, nailers, cleats, blocking, furring, grounds, stripping, and similar members; pressure preservative treated where in contact with concrete or as shown on Drawings.
2. Moisture Content: Maximum 19 percent for lumber items not specified to receive preservative treatment.
3. Grade: Standard Grade light framing size lumber of any species or board size lumber as required; No. 3 Common or Standard Grade boards per WCLIB or WWPAA rules or No. 3 boards per SPIB rules, or as otherwise indicated on Drawings.

C. Concealed Performance-Rated Structural Use Panels

1. General: Provide APA performance-rated panels complying with requirements designated under each application for grade, span rating, exposure-durability classification, edge detail, where applicable.
2. Wall Sheathing: APA rated sheathing, exterior glue with span rating to suit stud spacing.
3. Roof Sheathing: APA rated sheathing, exterior glue with span rating to suit rafter spacing.

D. Preservative-Treated Lumber

1. Above-Ground Items
 - a. Pressure-treat with waterborne preservatives to min. 0.60 pcf retention.
 - b. After treatment, kiln-dry lumber and plywood to maximum moisture content of 19 and 15 percent respectively.
2. Treat wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Treat wood floor plates installed over concrete slabs directly in contact with earth.
4. If cut after treatment, coat cut surfaces to comply with AWWA M4.
5. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

E. Miscellaneous Materials

1. Fasteners and Anchorages
 - a. Provide size, type, material, and finish and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers, and anchoring devices.
 - b. Provide metal hangers and framing anchors of size and type recommended by manufacturer for each use, including recommended nails.
 - c. Provide all fasteners and anchorages with hot-dip zinc finish to comply with ASTM A 153 or AISI Type 304 stainless steel.
 - d. Do not use staple fasteners for Work, except for temporary positioning of air infiltration barrier or roofing underlayment.
2. Galvanized Steel Framing Connectors: Simpson Strong-Tie Co., United Steel Products Co. Model Kant-Sag Construction Hardware, Heckman Building Products, or Engineer approved equal.
3. Construction Adhesive
 - a. General Construction: Darworth Co. Model Seamseal, or Engineer approved equal.
 - b. Pressure Preservative Treated Lumber: Contech Brands Model PL500 or Engineer approved equal.
4. Building Paper: ASTM D 226, Type I, asphalt-saturated felt, non-perforated, 15 lb.
5. Air Infiltration Barrier: DuPont Co. Model Tyvek Housewrap; Simplex Products Model Barricade Housewrap; Reemay, Inc. Model Typar Housewrap; or Engineer approved equal.
6. Sill Sealer Gaskets: Glass fiber resilient insulation fabricated in strip form for use as sill sealer. 1 in. nominal thickness compressible to 1/32 in. Select from manufacturer's standard widths to suit width of sill members indicated.

2.02 FINISH CARPENTRY

A. Exterior

1. Standing and Running Trim: Eastern white pine or white cedar, Grade 2 and Better, surfaced (smooth, S4S), aluminum cladding; refer to Section 07000 for finish.
2. Fasteners and Anchorages
 - a. Provide size, type, material, and finish and as recommended by applicable standards, complying with applicable Federal Specifications for nails, screws, and anchoring devices.
 - b. Provide all fasteners and anchorages with hot-dip zinc finish to comply with ASTM A153 or AISI Type 304 stainless steel.

B. Interior

1. Standing and Running Trim and Rails
 - a. Refer to Drawings for details.
 - b. All Wood Items: Air-seasoned and kiln-dried to max. 12 percent by weight moisture content; conform to AWI Section 100, Premium Grade, for all wood; flat and straight, free of warp or twist, free from knots and other imperfections.
 - c. Wood Moldings: Correspond exactly in profile to profile of stock moldings indicated on Drawings or, where custom fabricated, to dimensions indicated on Drawings.
 - d. Species and Cut: Eastern white pine, Select Grade, surfaced (smooth S4S).
 - e. Opaque Finish: Refer to Section 09000 for finish.
2. Countertops, Closet Shelving and Countertop Braces: High-pressure decorative laminate on APA A-C EXT plywood substrate, complying with following.
 - a. AWI Grade: Custom.
 - b. Laminate Cladding - Horizontal Surfaces: High-pressure decorative laminate; provide materials and products resulting in colors and textures of exposed laminate surfaces matching

Engineer's sample.

- c. Laminate Grade: GP-50.
 - d. Laminate Grain Direction: Parallel to longest dimension.
 - e. Edge Treatment: Laminate cladding over wood edge banding on all edges, screwed and glued to plywood substrate.
3. Fasteners and Anchorages
- a. Provide size, type, material, and finish and as recommended by applicable standards, complying with applicable Federal Specifications for nails, screws, and anchoring devices.
 - b. Provide all fasteners and anchorages with hot-dip zinc finish to comply with ASTM A153.

PART 3 EXECUTION

3.01 GENERAL

- A. Finished Work: Construct in accordance with Drawings and approved shop drawings.
- B. Woodwork: Securely attach to furring, grounds, blocking, and other construction to provide rigid, secure installation.

3.02 ROUGH CARPENTRY

- A. General
 - 1. Carefully lay out entire job, spending time to ensure installation of future materials and products will not be compromised.
 - 2. Check and double-check all measurements; notify Engineer of any discrepancies.
 - 3. When Project is entirely laid out, and before beginning framing construction, call Engineer for inspection.
 - 4. Provide wooden blocking in gypsum drywall partitions as required for door stops, wood finish trim, shelf standards, accessories, and other applied products.

- B. Attachment: Securely attach to substrate by anchoring and fastening as indicated, complying with BOCA National Building Code, Table 2305.2 Fastening Schedule.
- C. Wood Framing
 - 1. Frame openings as shown or, if not shown, comply with recommendations of NFPA Manual for House Framing, unless otherwise indicated.
 - 2. Install framing members of size and spacing indicated; do not splice structural members between supports.
- D. Wood Furring
 - 1. Install plumb and level with closure strips at edges and openings.
 - 2. Shim with wood as required for tolerance of finished Work.
 - 3. Level to tolerance of 1/8 in. in 10 ft.
- E. Wall and Partition Framing
 - 1. Arrange studs so wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel.
 - 2. Install single bottom plate and double top plates using 2 in. thick members whose widths equal that of studs; except single top plate may be used for non-load bearing partitions.
 - 3. Nail or anchor plates to supporting construction.
 - 4. Exterior Walls: Install 2 x 6 wood studs spaced 16-inches on center.
 - 5. Interior Partitions and Walls:
 - a. Restroom Partitions: Install 2 x 8 wood studs spaced 16 inches on center.
 - b. Closet Partitions: Install 2 x 4 wood studs spaced 16 inches on center.
 - c. Other Interior Partitions: Install 2 x 6 wood studs spaced 16-inches on center.
 - 6. Corners and Intersections: Construct with minimum 3 studs.
 - 7. Openings: Frame openings with multiple studs and headers.

8. Nonbearing Partitions: Provide double jamb studs and headers min. 4 inches deep for openings maximum 36 inches wide and minimum 6 inches deep for wider openings.
9. Load-Bearing Partitions: Provide double jamb studs for openings maximum 72 inches wide, and triple jamb studs for wider openings.

F. Structural Use Panels

1. Comply with applicable recommendations contained in Form No. E30, APA Design/Construction Guide Residential & Commercial, for types of construction panels and applications indicated.
2. Sheathing: Nail to framing; space panels 1/8 in. at edges and ends.
3. Plywood Backing Panels: Nail to supports.

3.03 Finish Carpentry

A. Standing and Running Trim

1. Perfectly match profiles of adjoining members at intersections.
2. Provide all members in single lengths wherever possible; miter at all, intersections; do not use butt joints at intersections.
3. Construct all items to allow for expansion and contraction without adverse effects on paint or finish surface.
4. Provide hairline visible joints, as imperceptible as possible.
5. Joints in Finished Work: Accurately cut, fit tight, and block or otherwise join to avoid opening.

B. Sanding

1. Finish all exposed surfaces in accordance with AWI Quality Standards.
2. Sand smooth all exposed wood.
3. Set, fill, and sand smooth all nail heads.
4. Provide finished wood free from machine or tool marks on exposed surfaces.

5. Exposed Surfaces: Finish smooth, free from marks, blemishes, or defacements of any kind.

C. High Pressure Decorative Laminate: Adhere to HPDL manufacturer's written instructions. Fabricate units in shop to maximum extent practical.

3.04 Installation Tolerances:

A. Rough Carpentry: $\pm 1/4$ inch in 10 feet.

B. Finish Carpentry and Millwork: $\pm 1/8$ inch in 8 feet.

3.05 Quality and Completeness of Work

A. Use adequate number of skilled personnel thoroughly trained and experienced in necessary crafts and completely familiar with specified requirements and methods needed for proper performance of Work.

B. Do not use broken, warped, heavily knotted, gouged, or otherwise defective materials in Work.

C. Do not use watermarked, stained, or otherwise defective materials in Work where rough framing will be exposed to view and stained or left natural, unless they can be sanded, cleaned, or in some way made to have an unblemished appearance; clean materials to satisfaction of Engineer before installing.

3.06 Guarantee

A. Guarantee structural integrity of construction regarding quality of materials and installation; return to repair all damage due to structural failure which can be shown to have been caused by negligence, at no charge to Owner.

B. Guarantee all installed trim and millwork will not open at joints or show cracks in paint/finish due to expansion or contraction for two years; return to correct such occurrences at no charge to Owner.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

<u>Pay Item</u>	<u>Pay Unit</u>
815.301 Security Entrance Building	Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 07000 - THERMAL AND MOISTURE PROTECTION

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of wood shingle and ridge vent. Include similar Samples of trim and accessories involving color selection.

PART 2 PRODUCTS

2.01 INSULATION

- A. R-values and thicknesses indicated on Drawings.
- B. Under Slab On Grade at Building Perimeter: Rigid extruded polystyrene, Type IV.
- C. Applied to Exterior of Foundation Footings: Rigid extruded polystyrene, Type IV.
- D. Exterior Framed Walls: Fiberglass batt or blanket, unfaced.
- E. Ceiling to Attics: Fiberglass batt or blanket, unfaced.
- F. Insulation Accessories
 - 1. Eave Baffles: Preformed, expanded polystyrene expanded plastic sheets designed and sized to fit between roof framing members to provide cross-ventilation between insulation and sheathing.
 - 2. Vapor Barrier: 6-mil thick polyethylene; max. 0.13 perms permeance rating.
 - 3. Vapor Barrier Tape: Pressure sensitive, compatible with vapor barrier.

2.02 ROOFING

- A. Square Tab Strip Shingles, UL Class A, Super Heavyweight:

1. Mineral-surface, self-sealing, 3-tab fiberglass-based asphalt strip shingles complying with ASTM D 3018, and Type I ASTM D 3462; 30 year warranty.
 2. Color: As selected by Engineer.
 3. Product: GAF Model Marquis Series; Owens-Corning Fiberglas Corp. Model Oakridge Series; Certainteed Model XT30; or Engineer approved equivalent 30 year shingle by Celotex, Elk, or Schuller.
- B. Ice and Water Shield
1. Type: Cold-applied, self-adhering preformed membrane.
 2. Size: 36 in. wide.
 3. Product: W.R. Grace Model Bituthene Ice and Water Shield; Certainteed Corp. Model Winter Guard; Owens-Corning Fiberglas Corp. Model Deck Dri, or Engineer approved equal.
- C. Metal Flashing: Aluminum. Refer to requirements of this Division.
- D. Ridge Vent
1. High-density polypropylene, nonwoven polyester, or other UV-stabilized plastic designed to be installed under asphalt shingles at ridge.
 2. Net Free Vent Area: Minimum 18 square inch per linear foot.
 3. Vent and End Cap Color: Black.
 4. Product: Cor-A-Vent. Inc. Model V-400; Air Vent Inc. Model Shingle Vent II; TAMKO Roofing Products, Inc. Model Roll Vent, or Engineer approved equal.
- E. Vent Pipe Flashing: Factory-fabricated resilient boot with integral mill-finish aluminum base flange. Throat opening sized to suit pipe.
- F. Seamless Aluminum Gutters and Downspouts
1. 0.032 gage prefinished aluminum gutters with hidden bar hanger spaced 16 inches on center secured with galvanized fasteners.
 2. Size: 6 inch for commercial.

- 3. Color: As selected by Engineer.
- G. Building Paper: Refer to Section 06000 for 15-lb. asphalt saturated felt building paper.

2.03 SIDING

- A. Vinyl Clapboard and Trim
 - 1. Style: Clapboard, continuous lengths, double 5-inch exposure rough cedar clapboard.
 - 2. Color: As selected by Engineer.
 - 3. Trim: Refer to Drawings; color and finish to match clapboard siding.
 - 4. Product: Certaineed Corp. Model Monogram, or equivalent products by Alcoa, Wolverine Siding Systems, and Ashland Davis, subject to the Engineer's approval.
- B. Soffits: Double 5" fully vented soffit, .046-inch thick, and matte wood grain finish. Color – white.
- C. Flashing: Aluminum; refer to requirements of this Section.
- D. Air Infiltration Barrier: Refer to Section 06000.
- E. Fasteners: Aluminum or hot-dipped zinc-coated siding or common nails in sufficient length to penetrate minimum 1 inch into sheathing.

2.04 ALUMINUM SHEETMETAL

- A. Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005, Temper suitable for forming and structural performance required, but not less than H14.
- B. Finish as follows:
 - 1. Factory Prime Coating: Factory-applied, baked-on enamel.
- C. Flashing Thickness:
 - 1. Roofing - Gable Edges and Eaves: 0.040 inches
 - 2. Roofing to Gable Wall: 0.032 inches

3. Roofing - Vent Flashing: 0.032 inches
4. Window and Door Sills: 0.032 inches
5. Window and Door Heads: 0.040 inches
6. Siding: 0.040 inches.

2.05 NAILS AND FASTENERS

- A. Roofing: 11 gage sharp-pointed conventional roofing nails with barbed shanks, minimum 3/8 inch diameter head with length to penetrate sheathing minimum 3/4 inch; aluminum or hot-dip galvanized steel.
- B. Siding: Stainless steel ring shank nails, length and size as recommended by siding manufacturer.
- C. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.

2.06 SEALANTS

- A. Interior: Paint Grade acrylic-emulsion.
- B. Interior - Wet Locations: Mildew-resistant silicone, white.
- C. Exterior: One-part nonsag urethane.
- D. Foundation/Basement: Multi-part nonsag urethane.

PART 3 EXECUTION

3.01 ROOFING UNDERLAYMENT

- A. Eaves
 1. Lay initial 12 inch-wide strip of ice and water shield continuously on roof deck starting at fascia.
 2. Over initial strip of ice and water shield, apply drip edge and cover top 3 inches of drip edge with continuous 36 inch-wide row of ice and water shield.
 3. Extend additional layer(s) of ice and water shield to 36 inches beyond

inside face of exterior walls.

B. Perimeter Roofing Underlayment

1. Apply strip of ice and water shield at gable edges to extend minimum 36 inches inside of exterior wall line.

C. Field Area of Roof Deck

1. Apply roofing felt to roof deck using nails, with roofing felt overlapping final row of ice and water shield minimum 2 inches.
2. Fasten roofing felt with minimum 1 nail to each 1 1/3 square foot of roof sheathing.

3.02 ROOFING SHINGLES

- A. Install starter strip of roll roofing or inverted shingles with tabs removed.
- B. Fasten shingles in manufacturer's recommended pattern, weather exposure and number of fasteners per shingle.
- C. Starter Strip: Cut tabs from full width strip of shingle and lay starter strip at eaves with adhesive strip positioned at edge of roof.
- D. Start laying full width strip shingles over starter strip and maintain exposure during laying.
- E. Use horizontal and vertical chalk lines to ensure straight coursing.
- F. Comply with installation details of shingle manufacturer and NRCA Steep Roofing Manual.
- G. Flashing and Edge Protection: Install metal flashing, vent flashing and edge protection as shown and according to details and NRCA Steep Roofing Manual recommendations.

3.03 VINYL CLAPBOARD SIDING

- A. Comply with manufacturer's instructions, except as otherwise noted and indicated.
- B. Terminate ends of siding in vinyl j-trim let into rabbeted edge of corner boards, horizontal trim boards, door and window surround trim.

3.04 ALUMINUM SHEETMETAL WORK

- A. General: Install sheet metal flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual."
- B. Provide concealed fasteners where possible, set units true to line, and level as indicated.
- C. Install work with laps, joints, and seams that will be permanently watertight.

3.05 INSULATION

- A. Comply with manufacturer's instructions for installation of insulation for specific condition.
- B. Extend insulation full thickness as shown over entire area to be insulated.
- C. Cut and fit tightly around obstructions and fill voids with insulation.

3.06 VAPOR BARRIER

- A. Extend vapor barrier in continuous sheet where possible.
- B. Secure in place with staples.
- C. Overlap seams min. 6 in. and tape overlapping joints.
- D. Seal butt joints and fastener penetrations with tape.
- E. Repair any tears or punctures in vapor barriers before applying finish materials.

3.07 SEALANTS

- A. Before start of installation in each joint, verify joint type according to details on Drawings, or as directed by Engineer; verify required proportion of width of joint to depth of joint has been secured.
- B. Apply sealant under pressure with power- actuated handgun, manually operated handgun, or other appropriate means.
- C. Use guns with proper size nozzle, providing sufficient pressure to completely fill joints as designed.
- D. Thoroughly and completely mask joints where appearance of primer or sealant on adjacent surfaces would be objectionable.

- E. Install sealant in strict accordance with manufacturer's recommendations, thoroughly filling joints to recommended depth.
- F. Tool joints to concave profile.
- G. Cleaning Up: Remove masking tape immediately after joints have been tooled; clean adjacent surfaces free from sealant as installation progresses, using solvent or cleaning agent recommended by sealant manufacturer.

3.08 GUARANTEE

- A. Shingle Roofing: Provide manufacturer's standard warranty for installed work agreeing to pay for repair or replacement of defective shingles to eliminate leaks for period of 30 years after Substantial Completion.
- B. Siding: Provide manufacturer's standard warranty for installed work agreeing to pay for repair or replacement of defective siding which fails through corrosion or damage to finish caused by manufacturing defects for period of 10 years after Substantial Completion.
- C. Sheetmetal Work: Provide warranty for installed work agreeing to pay for repair or replacement of defects (loose parts, leaking, wrinkling, buckling, non-uniformity of color) in sheetmetal work for period of 2 years after Substantial Completion.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

Pay Unit

815.301 Security Entrance Building

Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 08000 - DOORS AND WINDOWS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: For each product indicated.
 - 1. Include door designation, type, level and model, material description, label compliance, fire-resistance ratings, and finishes.
- B. Product Schedules: Use same reference designations indicated on Drawings.

PART 2 PRODUCTS

2.01 PERSONNEL DOORS

- A. Flush Steel Doors
 - 1. Interior: ANSI A250.8-1998 "SDI-100 Recommended Specifications for Standard Steel Doors and Frames," Level 2 and physical performance Level B, Heavy-duty 1¾-inch, Model 1 - Full Flush, minimum 18 gage galvanized steel. Close top and bottom edges with steel channels not lighter than 16 gage.
 - 2. Exterior: ANSI A250.8-1998 "SDI-100 Recommended Specifications for Standard Steel Doors and Frames," Level 3 and physical performance Level A, Extra Heavy-duty 1¾-inch, Model 1 - Full Flush, minimum 16 gage galvanized steel, insulated. Close top and bottom edges with steel channels not lighter than 16 gage. Close tops of exterior doors flush with an additional channel and seal to prevent water intrusion. Insulated cores shall be of type specified, and provide an apparent U-factor of .48 in accordance with SDI 113. Provide rigid polyurethane foam core: ASTM C 591, Type 1 or 2, foamed-in-place or in board form, with oxygen index of not less than 22 percent when tested in accordance with ASTM D 2863.
 - 3. Acceptable Manufacturers:
 - a. Amweld Building Products, Inc.
 - b. Ceco Corp.

- c. Curries Co.
- d. Republic Builders Products
- e. Or approved equal

B. Steel Door Frames

1. Interior: 16 gage galvanized steel, knock down for field assembly with mitered or coped corners. Design corners for simple field assembly by concealed tenons, splice plates, or interlocking joints that produce square, rigid corners and a tight fit and maintain the alignment of adjoining members. Provide locknuts for bolted connections.
2. Exterior: 14 gage galvanized steel, fully welded construction with mitered or coped corners. Continuously weld frame faces at corner joints. Mechanically interlock or continuously weld stops and rabbets. Grind welds smooth.
3. Mullions and Transom Bars: Mullions and transom bars shall be closed or tubular construction and shall member with heads and jambs butt-welded thereto. Bottom of door mullions shall have adjustable floor anchors and spreader connections.
4. Stops and Beads: Form stops and beads from 16-gage steel. Provide for glazed and other openings in standard steel frames. Secure beads to frames with oval-head, countersunk Phillips self-tapping sheet metal screws or concealed clips and fasteners. Space fasteners approximately 12 to 16 inches on centers. Miter molded shapes at corners. Butt or miter square or rectangular beads at corners.
5. Anchors: Provide anchors to secure the frame to adjoining construction. Provide steel anchors, zinc-coated, not lighter than 18 gage.
 - a. Wall Anchors: Provide at least three anchors for each jamb.
 - b. Stud partitions: Weld or otherwise securely fasten anchors to backs of frames. Design anchors to be fastened to wood studs with nails.
 - c. Floor Anchors: Provide floor anchors drilled for 3/8-inch anchor bolts at bottom of each jamb member.
6. Acceptable Manufacturers:
 - a. Amweld Building Products, Inc.
 - b. Ceco Corp.
 - c. Curries Co.
 - d. Republic Builders Products
 - e. Or approved equal

- C. Finish: Opaque finish over factory applied primers, refer to Section 09000.
- D. Hardware Preparation
 - 1. Provide minimum hardware reinforcing gages as specified in ANSI A250.6. Drill and tap doors and frames to receive finish hardware. Prepare doors and frames for hardware in accordance with the applicable requirements of ANSI A250.8 and ANSI A250.6. For additional requirements refer to ANSI/DHI A115. Drill and tap for surface-applied hardware at the project site. Build additional reinforcing for surface-applied hardware into the door at the factory. Locate hardware in accordance with the requirements of ANSI A250.8, as applicable. Punch door frames, with the exception of frames that will have weatherstripping, to receive a three rubber or vinyl door silencers on lock side of single doors. Set lock strikes out to provide clearance for silencers.
- E. Fabrication and Workmanship
 - 1. Finished doors and frames shall be strong and rigid, neat in appearance, and free from defects, waves, scratches, cuts, dents, ridges, holes, warp, and buckle. Molded members shall be clean cut, straight, and true, with joints coped or mitered, well formed, and in true alignment. Dress exposed welded and soldered joints smooth. Design door frame sections for use with the wall construction indicated. Corner joints shall be well formed and in true alignment. Conceal fastenings where practicable.

2.02 DOOR HARDWARE

- A. Hinges: ANSI/BHMA A156.1, full mortise hinge, anti-friction bearing, Grade 2, 4½" x 4½", template hinges, non-removable pins, flat button and matching plug tips.
 - 1. Exterior Hinges: Provide hinges constructed of stainless steel with satin stainless steel finish (US32D).
 - 2. Interior Hinges: Provide hinges constructed of wrought brass or bronze with satin chrome finish (US26D).
- B. Locksets, Latch sets and Cylinders: ANSI/BHMA A156.2, Series 4000, Grade 1, stainless steel with satin stainless steel finish (US32D). Provide strike plate in matching finish.
 - 1. Cylindrical type, lever handle locksets/latch sets, access-free ADA-compliant, or equal, with interchangeable-core pin tumbler inserts.

2. Locate handles and locks/latches in accordance with ADAAG requirements.
 3. Lock Cylinders: ANSI/BHMA A156.5, Grade 1. Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - a. Number of pins: Five
 - b. Bored Lock Type: Cylinders with tailpieces to suit locks.
- C. Closers: ANSI/BHMA A156.4, surface-mounted modern type overhead closer (with plastic cover), top jamb push-side mounted, Grade 1, access-free ADA-compliant; powder coated finish with color as selected by the Engineer.
- D. Keying
1. General: Contractor will meet with Owner to finalize keying requirements and obtain final instructions in writing. For the duration of the contract the Contractor shall furnish and install keyed deadbolts to maintain building security.
 2. Existing System. Grand master key the locks to the Owner's existing system. Comply with Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks. Permanently inscribe each key with number or lock that identifies cylinder manufacturer key symbol, and notation "DO NOT DUPLICATE".
 3. Lock cylinders shall be furnished by the Owner and installed by the Contractor.
 4. Key Material. Provide keys of nickel silver only.
 5. Key Quantity. Furnish 3 change keys for each lock. Deliver keys to Owner's representative.
- E. Kick Plates: ANSI/BHMA A156.6, J102, US32D, B3E, 8-inches high.
- F. Door Stops: ANSI/BHMA A156.16, dome-type, L02141, US26D.
- G. Weatherstripping: Provide weatherstripping at all exterior doors. Weatherstripping sets consists of head, jamb and door bottom seals consisting of the following:

1. Head and Jamb Weatherstripping: Brush nylon insert in extruded aluminum housing with natural anodized finish. Zero International #8304AA, or approved equal.
 2. Door Bottom Weatherstripping: Brush nylon insert in extruded aluminum housing with integral drip and with natural anodized finish. Zero International #8198A, or approved equal.
 3. Zero International products are noted to establish a quality standard. Other weatherstripping manufacturer's products may be considered for approval, including, but not limited to National Guard Products, Inc., PEMKO, and Reese Weatherstrips and Thresholds. Submit product data to the Engineer for approval.
- H. Thresholds: ANSI/BHMA A156.21, J36130, 5-inch, natural anodized finish, access-free ADA-compliant. Zero International #564A, or approved equal.
1. Zero International product is noted to establish a quality standard. Other threshold manufacturer's products may be considered for approval, including, but not limited to National Guard Products, Inc., PEMKO, and Reese Weatherstrips and Thresholds. Submit product data to the Engineer for approval.
- I. Silencers at Non-weatherstripped Door Frames: ANSI/BHMA A156.16, L03011. 1-Set = three rubber insert-type silencers on strike jamb of door frame.

2.03 GLASS AND GLAZING

- A. ASTM C 1036; Type I (transparent flat glass); Quality-Q3; of class, kind, and condition indicated. Provide Kind FT (fully tempered) float glass in place of annealed or Kind HS (heat-strengthened) float glass where safety glass is indicated.
- B. Laminated Glass: ASTM C 1172, and complying with other requirements specified and with the following: Interlayer of polyvinyl butyral of thickness indicated with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.
- C. Insulating-Glass Units, General: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article and in Part 2 "Insulating-Glass Units" Article.
 1. Provide Kind FT (fully tempered) float glass.
 2. Sealing System: Dual seal.

3. Spacer Specifications: Manufacturer's standard spacer material and construction.

D. Glazing Tapes

1. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and non-migrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 - a. AAMA 804.3 tape, where indicated.
 - b. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 - c. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
2. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
 - a. Type 1, for glazing applications in which tape acts as the primary sealant.
 - b. Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

E. Miscellaneous Glazing Materials:

1. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
2. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
3. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

4. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
5. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Insulating Glass Units: Low-E Insulating Glass Units (IG-1)

1. Overall Unit Thickness: 1-inch.
2. Thickness of Each Lite: 1/4-inch.
3. Interspace Content: Argon gas.
4. Outdoor Lite: Laminated Safety Glass, as specified.
5. Indoor Lite: Laminated Safety Glass, as specified.
6. Low-E Coating: Sputtered on second surface.
7. Outdoor Visible Light Reflectance = 12% minimum.
8. Wintertime U-Factor = 0.31 maximum.
9. Summertime U-Factor = 0.32 maximum.
10. Solar Heat Gain Coefficient = 51% maximum.
11. Shading Coefficient = 0.59 minimum.

G. Laminated Safety Glass: (LG-1)

1. Outer Lite: Class 1 clear float glass. Kind FT (fully tempered). Thickness: 1/8 inch.
2. Inner Lite: Class 1 (clear) float glass. Kind FT (fully tempered). Thickness: 1/8 inch.
3. Plastic Interlayer: Thickness: 0.060 inch, but not less than that required to comply as a Type II safety glass material. Interlayer Color: Clear.

2.04 ALUMINUM WINDOWS

- A. Heavy Commercial Types (AAMA 101-97 Designation):
 - 1. Horizontal Sliding: HS-HC60.
 - 2. Fixed: F-HC50.
- B. Windows: 3-1/4" minimum frame depth; extruded aluminum (Alloy 6063-T5) with integral structural polyurethane thermal break in the frame and sash members; equal leg frame; factory-applied finish; frames and sash factory assembled.
- C. Configuration: As indicated.
- D. Glazing: Exterior tape; 1" Low-E insulating glass; manufacturer's standard glazing.
 - 1. Insulating Glass: Manufacturer's standard double-insulating glass units, 1-inch in overall thickness, consisting of inner and outer lites of 3/16"-thick clear tempered glass with a hard coat Low-E coating on the No. 3 surface.
- E. Screen: Sliding operable insect screen at horizontal sliding windows. Extruded aluminum tubular frame with same finish as window in color and performance; corners mitered, gusset reinforced, and crimped. 18x16 dark aluminum mesh secured with PVC spline.
- F. Finish: PPG DuranarTM with resin containing 70% fluoropolymer; thermosetting.
 - 1. Quality Standard: Conforming to AAMA 2605-02, including 10-years Florida exposure and 4,000 hours humidity tests.
 - 2. Pretreatment: Five-stage zinc chromate conversion coating.
 - 3. Application: Electrostatic spray and oven baked.
 - 4. Coating quantity: Minimum one primer coat and one color coat.
 - 5. Dry Film Thickness: Minimum 1.2 mils on exposed surfaces, except inside corners and channels.
 - 6. Color: As selected by the Engineer from the manufacturers standard range of colors.
- G. Glazing: Dual sealed insulating glass, tempered safety glass at exterior window units.
- H. Installation Accessories:
 - 1. Material: Extruded aluminum, nominal 0.062" wall with exposed surfaces finished to match window color and finish performance; concealed

fasteners; required weather seals; designed for unrestricted expansion and contraction.

2. Exterior: Two-piece head and jamb receptor with thermal break; sub-sill with thermal break and end dams; sill cover.
3. Interior: Two-piece snap trim; stool cover.

I. Manufacturer: TRACO windows are noted to establish a quality standard.

1. Horizontal Sliding Windows: TRACO Model TR-6800.
2. Fixed Windows: TRACO Model TR-7100.
3. Other window manufacturer's products may be considered for approval, including, but not limited to EFCO Corp., Graham Architectural Products, Corp., and Kawneer. Submit product data to the Engineer for approval.

2.05 WINDOW ACCESSORIES

A. Natural Voice Communicator: Round 6-inch diameter cast stainless steel talk through speaker, with evenly spaced concentric louvers (and spacer ring as required).

B. Approved Products:

1. Gaffco, Model GS-34
2. Creative Industries, Inc. Model 6-D Talk Thru
3. Advanced Protection Products, Inc.
4. Or approved equal.

PART 3 EXECUTION

3.01 DOOR INSTALLATION

A. Hang all doors plumb and level, and fully operable; mount according to manufacturer's instructions, ANSI A250.11 "Recommended Erection Instructions for Steel Frames" and SDI-122 (99) "Installation and Troubleshooting Guide for Standard Steel Doors and Frames."

B. Weatherstripping:

1. Install weatherstripping in accordance with manufacturer's written instructions; making all exterior doors weathertight and fully operable.

C. Swinging Doors

1. Mount to open fully against adjacent wall.
 2. Provide hinge pin positioned so door misses all obstructions, such as projections of bases, chair rails, or door or window casings on adjacent wall surfaces.
 3. Use larger hinge where necessary.
- D. Replace all unacceptable checked, warped, or damaged materials at no additional cost to Owner.

3.02 WINDOW INSTALLATION

- A. Install according to manufacturer's instructions and specifications.
- B. Install plumb and true; provide required support and securely fasten; make weathertight and fully operable.
- C. Install window accessories according to manufacturer's instructions and specifications.
- D. Apply sealant per sealant manufacturer's written instructions at joints, wipe off excess, and leave exposed sealant surfaces clean and smooth.
- E. Replace all unacceptable checked, warped, or damaged materials at no additional cost to Owner.

3.03 GUARANTEE

- A. Guarantee efficient operation of all doors and windows.
- B. After painting has been completed, check all doors for operation and weathertightness and made adequate adjustments where needed.
- C. Guarantee doors and windows for two years against warping, swelling, or disfiguring, which would cause doors and windows to misalign or become difficult to operate.
- D. Return to building after six months to correct sticking or misaligned doors and windows, at no additional expense to Owner.

3.04 HARDWARE SCHEDULE

A. HW-1 (Exterior Doors #101, #102, #103 and #104)

1 ½ pairs	Hinges
1	Lockset (F82 Entry Lock)
1	Closer
1	Kick Plate
1 set	Weatherstripping
1	Threshold

B. HW-2 (Interior Door #105)

1 ½ pairs	Hinges
1	Lockset (F76 Privacy Lock)
1	Kick Plate
1	Door Stop
1 set	Silencers

C. HW-3 (Interior Doors #106 and #107)

1 ½ pairs	Hinges
1	Latch (F75 Passage Latch)
1 set	Silencers

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

Pay Unit

815.301 Security Entrance Building

Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 09000 - FINISHES

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Samples: For each product indicated.
- C. Assembled tile samples with grouted joints for each type, composition, color, and finish of tile.

PART 2 PRODUCTS

2.01 GYPSUM WALLBOARD

- A. Gypsum Wallboard: ASTM C 36. 48 inch wide by ½-inch thick by length to result in minimum joints.
- B. Metal Trim:
 - 1. Form from zinc-coated steel minimum 26 gage, complying with Federal Specification FS QQ-S-775, Type 1, Class D or E.
 - 2. Casing Beads: Channel-shaped with exposed wing, concealed wing min. 7/8 inch wide, with exposed wing covered with paper cemented to metal, suitable for joint treatment.
 - 3. Corner Beads: Angle shapes with wings min. 7/8 inch wide and perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, min. 1-1/4 inch wide suitable for joint treatment.
 - 4. Edge Beads for Ceiling Perimeter: Minimum 3/4 inch wide, concealed wing perforated for nailing, and exposed wing edge folded flat, white color.
- C. Joint Compound, Tape, and Adhesive: Comply with ASTM C 475, asbestos-free.

- D. Fastening Devices for Wood Studs: 1-5/8 inch, Type W bugle-head screws.
- E. Other Materials: As recommended by wallboard manufacturer for complete and finished job.

2.02 TILE

A. CERAMIC TILE

1. Provide ceramic tile and accessories complying with TCA Specification 137.1 in colors and patterns selected by Engineer from standard colors and patterns of approved manufacturers.
2. Wall Tile: Glazed flat tile, 4 1/4" x 4 1/4" x 5/16" thick, plain face with modified square edges or cushioned edges, bright opaque glazed finish, factory back mounted. Provide coved tile base matching wall tile in unisex restroom.
3. Floor Tile: Unglazed quarry tile. Square-edged flat tile with non-abrasive smooth wearing surface, 8"x8"x3/8", plain face. Provide 1/2" wide grout joints at floor tile.
4. Tile Base: Bullnose, coved tile with non-abrasive smooth wearing surface, 6"h x 8"w x 3/8"t, plain face, unless noted otherwise. Provide 1/2" wide grout joints in line with floor tile joints.

B. Setting Materials:

1. Comply with pertinent recommendations of Tile Council of America (TCA) Handbook for Ceramic Tile installation.
2. Floors – (TCA System F113-2K) Latex-Portland Cement Mortar: ANSI A118.4 Commercially prepared mixture of portland cement and special latex additive for use as bond coat for setting tile; comply with ANSI 118.4
3. Walls – (TCA System W223-2K) Organic Adhesive: ANSI A136.1, Type I

C. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

D. Floor Tile Sealer: Clear siloxane-based penetrating sealer.

E. Tile Samples:

1. Submit samples indicating all colors, finishes, sizes, and patterns of all materials proposed to be used for approval as directed by Engineer.
2. All installed materials shall conform to approved corresponding samples.

2.03 ACOUSTICAL CEILING

A. Panel

1. Size: 24 inch by 24 inch by 5/8 inch, square edge, lay-in.
2. Color: White.
3. Manufacturers and Products:
 - a. Armstrong World Industries: Minatone Cortega 704
 - b. Celotex Corp.: Hytone Baroque BET-154,
 - c. USG Interiors: Auratone Pin-Perforated 11 462
 - d. Or Engineer-approved equal.

B. Suspension Grid

1. Type: Exposed, 15/16 inch wide prepainted steel, intermediate duty.
2. Color: White.
3. Product:
 - a. Armstrong World Industries: Prelude 7300 Series
 - b. Chicago Metallic Industries: Planostile.
 - c. USG Interiors: DX System.
 - d. Or Engineer-approved equal.

C. Hanger Wire: ASTM A641, Class 1 zinc coating, soft-temper, not less than 0.106-inch diameter wire.

2.04 EXTERIOR PAINT

A. General: Quality of paint is based on products of Benjamin Moore; equal products of Pratt & Lambert or Sherwin Williams may be used subject to Engineer's approval based on verification of match of quality of specified products.

1. Metal - Galvanized:
 - a. Primer: 1 coat, IronClad Retardo Rust Inhibitive Paint.

- b. Finish: 2 coats, Impervo Enamel.
- 2. Metal - Factory-Primed:
 - a. Intermediate: 1 coat, Exterior Alkyd Primer.
 - b. Finish: 2 coats, Impervo Enamel.

2.05 INTERIOR PAINT

- A. General: Quality of paint is based on products of Benjamin Moore; equal products of Pratt & Lambert or Sherwin Williams may be used subject to Engineer's approval based on verification of match of quality of specified products.
 - 1. Gypsum Board Walls - Eggshell:
 - a. Primer: 1 coat, Latex Quick Dry Primer/Sealer.
 - b. Finish: 2 coats, Regal Aquavelvet.
 - 2. Wood - Paint:
 - a. Primer: 1 coat, Speedy Primer Sealer Stain Killer.
 - b. Finish: 2 coats, Interior/Exterior Alkyd Gloss Enamel.
 - 3. Metal – Factory-Primed:
 - a. Primer: 1 coat, alkyd-enamel underbody.
 - b. Finish: 2 coats, Impervo Enamel.

PART 3 EXECUTION

3.01 GYPSUM BOARD INSTALLATION

- A. Comply with requirements of manufacturer and Gypsum Association.

3.02 TILE INSTALLATION

- A. Comply with following TCA Methods.
 - 1. Comply with ANSI A108.1, A108.2, and TCA Handbook for Ceramic Tile, except as otherwise directed by Engineer or specified.
 - 2. Unless dimensioned otherwise on Drawings, always begin tile pattern at middle of floor or wall section. Centerline of wall or floor shall land on either joint between tiles or on centerline of tiles, so joints at edges and corners are same on both sides and are laid out with never less than 1/2 tile remaining.

3.03 ACOUSTICAL CEILING

- A. Install in strict accordance with manufacturer's recommendations and as approved by Engineer.

3.04 PAINTING

- A. Perform preparation and cleaning procedures in strict accordance with paint manufacturer's recommendations and as approved by Engineer.
- B. Remove removable items that are in place and not scheduled to receive paint finish, or provide surface-applied protection before surface preparation and painting operations.
- C. Clean each surface to be painted before applying paint or surface treatment.
- D. Remove oil and grease with clean cloths and cleaning solvent of low toxicity and flash point in excess of 200 degrees Fahrenheit before start of mechanical cleaning.
- E. Schedule cleaning and painting so dust and other contaminants from cleaning process with not fall onto wet newly painted surfaces.
- F. Touch up damaged shop-applied prime coats and bare areas before start of finish coat application.
- G. Slightly vary color of succeeding coats.
- H. Do not apply additional coats until completed coat has been inspected and approved.
- I. All colors shall cover fully and completely to provide opaque, smooth, uniform surface finish, color, appearance, and coverage.
- J. Sand and dust between coats to remove defects visible to unaided eye from distance of 5 feet.
- K. Allow sufficient drying time between coats, modifying period as recommended by material manufacturer to suit adverse weather conditions.
 - 1. Consider oil-base, oleo-base, and oleo-resinous solvent-type paint as dry for recoating when paint feels firm, does not deform or feel sticky under moderate thumb-pressure, and when application of another coat of paint does not cause lifting or loss of adhesion of undercoat.

- L. Opinion of Engineer shall be binding with respect to acceptability of all painting; any substrate still visible at completion of painting shall be considered unacceptable.
- M. Only inspected and approved coat of paint will be considered in determining number of coats applied.
- N. Paint back sides to match exposed sides on removable and hinged panels.
- O. Brush Applications: Brush out and work brush coats onto surface in even film; cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.
- P. Following completion of painting in each space or area, reinstall removed items using skilled personnel.

3.05 GUARANTEES

- A. Guarantee against future popping or loosening of wallboard screws or nails for period of two years; return to repair such occurrences at no charge to Owner.
- B. Guarantee against future loose tiles or other problems resulting from improper installation for two years; return to repair such problems at no cost to Owner.
- C. Guarantee for two years after Substantial Completion all materials and installation of this Section, including swelling resulting from seasonal atmospheric conditions; promptly remedy all defects which may develop during guarantee period to satisfaction of Owner, at own expense.

3.06 EXTRA MATERIALS

- A. Provide excess stock of 5 percent of each color, texture, and shape for tile, acoustical panel, resilient tile; and one unopened gallon of each color and composition of paint and stain.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section,

but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

Pay Unit

815.301 Security Entrance Building

Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 10000 - SPECIALTIES

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

PART 2 PRODUCTS

2.01 TOILET ACCESSORIES

- A. General: Quality of accessories is based on products by American Specialties, Inc. Equivalent products by A&J Washroom Accessories, Bobrick Washroom Equipment Co., Bradley Corp., or General Accessory Mfg. Co. may be used subject to the Engineer's approval, based on verification of matching quality of specified products.
- B. Toilet Tissue Dispenser: Model No. 0030; surface-mounted, twin hide-a-roll toilet tissue dispenser, with No. 4 satin stainless steel finish.
- C. Mirror: Model No. 0535; fixed angle tilted mirror. Exposed surfaces to have No. 4 satin stainless steel finish. Size as indicated. Mirror to consist of No. 1 quality, 1/4" float/plate glass selected for silvering, electrolytically copper plated by galvanic process, guaranteed for 15-years against silver spoilage.
- D. Sanitary Napkin Disposal: Model No. 0852; surface-mounted sanitary napkin disposal with purse shelf. Exposed surfaces to have No. 4 satin stainless steel finish.
- E. Waste Receptacle: Model No. 0458; Semi-recessed waste receptacle, 12-gallon capacity, with hooks for attaching removable vinyl liner. Maximum 4-inch projection from wall. Exposed surfaces to have No. 4 satin stainless steel finish.
- F. Grab Bars: 3800 Series, 1-1/2" diameter stainless steel grab bars with concealed mounting and snap-on flange covers, 3'-6" long. Exposed surfaces to have No. 4 satin stainless steel finish. Provide non-slip peened surface.

- G. Paper Towel Dispenser: Model No. 0210; surface-mounted paper towel dispenser, 525 standard multi-fold or 400 standard C-fold paper towel capacity. Exposed surfaces to have No. 4 satin stainless steel finish.
- H. Soap Dispenser: Model No. 0343; surface-mounted vertical liquid soap dispenser, 40 oz. Capacity. Exposed surfaces to have No. 4 satin stainless steel finish.

2.02 FIRE EXTINGUISHER

- A. Type: UL-Rated 2A:10B:C; 15 pound nominal capacity, enameled steel container. Location as indicated on drawings.
- B. Mounting: Surface-mounted with standard mounting bracket.
- C. Acceptable Manufacturers:
 - 1. J.L. Industries
 - 2. Larsen's Mfg. Co.
 - 3. Watrous, Inc.
 - 4. Or Engineer-approved equal.

PART 3 EXECUTION

3.01 GENERAL

- A. Strictly follow manufacturer's written instructions for installation. Install in conformance with ADAAG requirements.

3.02 TOILET ACCESSORIES

- A. Mount all surface-mounted items to solid blocking built into wall framing.
- B. Mount all toilet accessories to comply with ADAAG requirements.

3.03 INSTRUCTIONS

- A. Provide 2 copies of all maintenance instructions in 3-ring binders.

3.04 CLEANING

- A. Maintain all specialties in clean condition and, upon Substantial Completion, thoroughly clean to satisfaction of Engineer.

- B. Remove all labels, unless required to remain.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

<u>Pay Item</u>	<u>Pay Unit</u>
815.301 Security Entrance Building	Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 15412 - PLUMBING

PART 1 GENERAL

1.01 EXTENT OF WORK

- A. The Work to be done under this Section consists of furnishing all materials, labor, tools, equipment and services, and performing all operations necessary to complete all plumbing Work.
- B. The Work includes but is not limited to the following items:
 - 1. Cold and hot water supply and distribution systems.
 - 2. Valves, fittings, pipe drains and all appurtenances for complete systems.
 - 3. Underground piping for sewage holding tank.
 - 4. Drain, waste and vent piping and appurtenances.
 - 5. Plumbing fixtures.
 - 6. Mechanical insulation

1.02 WORK NOT INCLUDED

- A. The following items in connection with the Work, or adjoining the Work of this Section, are specified in other Sections of these Specifications:
 - 1. Concrete work
 - 2. Flashing of all pipe penetrations through roof
 - 3. Power wiring and disconnect switches
 - 4. Water piping greater than 10 feet from the building.
 - 5. Underground sewage holding tank.

1.03 SUBMITTALS

- A. The Drawings are diagrammatic, and locations of connections approximate, but the Drawings shall be followed as closely as actual conditions will permit. All changes to the Drawings to make the Work conform to governing regulations or to avoid any obstacles shall be made by the Contractor with the approval of the

Department at no additional cost to the Department. All changes shall require scaled drawings which shall be prepared by the Contractor, submitted to the Department for approval, prior to installation.

- B. Because of the small scale of the Drawings it is not possible to indicate all offsets and accessories that may be required for the installation. Therefore, the Contractor shall carefully coordinate the structural and finish conditions affecting the Work and shall arrange such details accordingly furnishing and installing whatever items are required to meet such conditions.
- C. All equipment and appurtenances intended to be incorporated into the Work shall be reviewed and approved by the Department prior to ordering materials and installation. The shop drawings shall show manufacturers' names and catalog numbers; and detailed drawings and product data for wiring, piping, foundations, grouting, lubricants, special tools, bolts and nuts, anchor bolts, concrete inserts, and sleeves, together with performance characteristics for all items. Submit pipe support drawings including shop drawings for accessory items. Also submit a list of manufacturer's recommended spare parts, record drawings of plumbing installation; and operations and maintenance manuals. Items not conforming to the requirements of the Drawings and/or the Specifications will be rejected. No partial submittals will be accepted. All materials and equipment shall be of such dimensions that they may be moved into and out of the completed building through the openings provided.
- D. Shop Drawings and Manufacturer's Data shall include, but not be limited to:
 - 1. Pipe and fittings
 - 2. Valves
 - 3. Piping specialties and accessories
 - 4. Hangers and supports
 - 5. Mechanical insulation
 - 6. Cleanouts
 - 7. Plumbing fixtures
 - 8. Water heater

1.04 ORDINANCES, PERMITS AND FEES

- A. The Work under this Section shall comply with all ordinances and regulations of Authorities having jurisdiction. All work under this Section shall be done in strict accordance with Maine Plumbing Code.
- B. The Contractor shall obtain all necessary permits and arrange for all mandatory inspections.

1.05 STANDARDS AND CODES

A. Materials, equipment and installation shall conform to the following standards and codes and shall be so labeled, or listed:

1. American National Standards Institute (ANSI).
2. American Society for Testing and Materials (ASTM).
3. American Society of Mechanical Engineers (ASME).
4. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Codes.
5. American Water Works Association (AWWA).
6. Cast Iron Soil Pipe Institute (CISPI).
7. Commercial Standards.
8. State of Maine Plumbing Code.
9. Federal, State and/or Municipal Codes.
10. National Electric Code (NEC).
11. National Electrical Manufacturers Association (NEMA).
12. National Fire Protection Association (NFPA).
13. National Sanitation Foundation (NSF).
14. Occupational Safety and Health Regulations (OSHA).
15. Plumbing and Drainage Institute (PDI).
16. Public Safety Codes.
17. Underwriters Laboratories, Inc. (UL).
18. U. S. Public Health Service.

1.06 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. Operating and maintenance instructions for equipment shall be furnished to the Department. Upon completion, the Contractor shall provide instruction of the Department's personnel in the operation, adjustment and maintenance of each system and its components by manufacturer's qualified service (not sales) representatives.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide products of sizes, types, pressure ratings, temperature ratings and capacities as indicated. All products shall be new, unused and first quality. Equipment and accessories not specifically described or identified by manufacturer's catalogue number shall be designed in conformity with ASME, IEEE, or other applicable technical standards suitable for maximum working pressures and intended purpose and shall have a neat and workmanlike appearance. Where equipment and materials are specifically called for or normally subject to Underwriter's Laboratories Inc., (UL) requirements, such products shall be UL labeled and/or listed. Furnish and install all required products for the complete installation as shown on the drawings or noted herein, and required to make the installation complete in accordance with the intent of the drawings and Specification.

2.02 PIPE AND PIPE FITTINGS

- A. Piping Materials: Provide pipe and tube of type, joint type, grade, size and weight (wall thickness or Class) indicated for each service. Where type, grade or class is not indicated, provide proper selection as determined by Contractor for installation requirements, and furnish and install all piping systems as shown on the drawings, or reasonably implied therefrom, to make complete and workable systems.
- B. Pipe/Tube Fittings: Provide factory-fabricated fittings of type, materials, grade, class and pressure rating indicated for each service and pipe size. Provide sizes and types matching pipe, tube, valve or equipment connection in each case. Where not otherwise indicated, comply with governing regulations and industry standards for selections, and with pipe manufacturer's recommendations where applicable. All elbows shall be of the long radius type.
- C. Soldering Materials: Except as otherwise indicated, provide 95-5 Tin-Antimony solder, or Silvabrite 95.5-4-.5 Tin-Copper-Silver.

- D. Bolts and Washers: Bolts and washers for flanges shall be Type 304 stainless steel and shall extend a minimum two full thread widths beyond the nut. Provide flat washers under bolt head and nut.

E. Piping Materials

- | 1. | System | Piping Material |
|----|--|--------------------------|
| a. | Underground waste and vent piping 4 inch and larger | Service weight cast iron |
| b. | Aboveground waste and vent piping 4 inch and larger | Cast iron, hubless |
| c. | Aboveground waste and vent piping 3 inch and smaller | Type L copper |
| d. | Aboveground water piping | Type L copper |
| e. | Underground water piping | Type K copper |
2. Cast Iron
- a. Service weight cast iron soil pipe shall be ASTM A74.
 - b. Joints shall be made by caulked lead and oakum or by compression gaskets conforming to ASTM C564.
 - c. Above ground hubless cast iron pipe and fittings shall be joined with a 4 band stainless clamp from a list of approved clamps and installed in accordance with CISPI Pamphlet Designation 310-78.
3. Type K and L Copper Tube
- a. Construction: Hard drawn temper, ASTM B88.
 - b. Fittings: Wrought copper, ANSI B16.22 or cast bronze, ANSI B16.18, 95/5 solder joints, provide threaded adapters as required.
 - c. Type K Copper Tube
 - 1). Construction: Soft temper, ASTM B88.

- 2). Fittings: Wrought copper, ANSI B16.22 or cast bronze, ANSI B16.18, brazed fittings (no joints for buried pipe whenever possible).

2.03 VALVES

A. General.

All valves shall be of the types shown on the Drawings and similar or equal to the products of Jenkins Brothers, Cla-Val Company, Wellworth Manufacturing Company, Crane Company, or Nibco Incorporated, or approved equal, unless otherwise separately specified. Valves shall be threaded or sweated end type, as applicable. All gate and globe valves shall be designed for repacking under pressure when fully opened, and shall be equipped with packing suitable for the intended purpose. Unless otherwise indicated, provide handwheels of one color for all valves, clockwise to close.

B. Ball Valves

Valves shall be 150 psi, bronze body, stainless steel ball, standard port, bronze trim, TFE seats and seals.

C. Gate valves.

1. Gate valves shall be standard 125 psi WSP, all bronze, union bonnet, rising stem, for 2 1/2-inch and smaller.
2. Gate valves shall be 125 psi WSP flanged ends, iron-body, bronze trimmed, outside screw and yoke, for larger sizes. All discs shall be solid bronze wedge. Iron body valves shall have bolted bonnets.
3. Main water gate valves shall have rising stem and shall be double disc type at the connection to the main, or meter.

D. Globe valves.

Globe valves shall be standard, 125 psi WSP, all bronze, union bonnet, integral seat, renewable composition discs with wheel handle, except where loose key and/or lockshield are noted on the drawings.

E. Drain valves.

1. Class 125, bronze body, screw-in bonnet, rising stem, composition disc, 3/4 hose outlet.

F. Check valves.

1. Check valves 2 1/2-inch and smaller shall be standard 125 psi WSP, all bronze horizontal swing, regrinding type, screwed, with renewable disc.

G. Pressure Reducing Valves

1. General: Provide pressure reducing valves as indicated, of size and capacity to maintain operating pressure on system.
2. Construction: Bronze construction designed for 300 psi maximum inlet pressure, low inlet pressure check valve, inlet strainer removable without system shut-down, non-corrosive valve seat and stem adjustable from 25 to 80 psi no flow outlet pressure. Provide Watts, Cla-Val, Apco or equal.

H. Wall Hydrants.

Exterior Wall Hydrants. Fully enclosed, nickel-bronze box with satin finish face, extra deep box, all bronze vacuum breaker, brass casing, nonfreeze wall hydrant, 3/4-inch hose connection with locking cover as manufactured by Zurn, J.R. Smith, Woodford, or equal.

2.04 PIPING SPECIALITIES AND ACCESSORIES

A. Pressure Gauges.

Pressure gauges shall have monel rotary type movement, delrin gear, aluminum case, double strength clear glass window with black embossed figures and graduations on a white dial face, with 1 percent accuracy of scale range. Gauges shall be manufactured by Trerice Company, Taylor Instrument, Marshalltown Manufacturing or equal.

1. Gauges shall be furnished with snubbers and gauge cocks.
2. Gauges shall be 4-1/2 inch diameter and furnished with range of 0 to 160 psig.

B. Dielectric Unions and Nipples

General: Wherever dissimilar metals meet, provide dielectric unions or dielectric nipples of standard products recommended by manufacturer, which effectively isolate ferrous from non-ferrous piping (electrical conductance), prevent galvanic action, and stop corrosion.

C. Strainers

Strainers shall be Y-type, full line size of connecting piping, 125 psig working pressure, stainless steel screens, body material and end connections matching piping system, as manufactured by Armstrong, Spirax Sarco, Watts, or equal. Install pipe nipple and shutoff valve in strainer blow down line.

D. Escutcheons.

Provide pipe escutcheons at all pipe penetrations with inside diameter closely fitting pipe outside diameter, or outside of pipe insulation where pipe is insulated. Select outside diameter of escutcheon to completely cover pipe penetration hole in floors, walls, or ceilings; and pipe sleeve extension, if any. Furnish pipe escutcheons of cast brass, solid or split hinged. Escutcheons shall be held in place by internal spring tension or set screws and be as manufactured by Chicago Specialty Mfg. Co., Producers Specialty & Mfg. Corp., Sanitary-Dash Mfg. Co., or equal.

E. Pipe Sleeves

Mechanical Seals: Mechanical seals for gastight and/or watertight sealing of pipe penetrations shall be modular mechanical type consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and wall opening. Links shall be loosely assembled with bolts to form a continuous rubber belt around the pipe with a pressure plate under each bolt head and nut. After the seal assembly is positioned in the sleeve, tightening of the bolts shall cause the rubber sealing elements to expand and provide gas-tight and water-tight seal between the pipe and wall opening.

F. Openings, Inserts and Sleeves.

General. Provide all sleeves and inserts which are necessary for installing the Work. The Contractor shall be responsible for the correct location of openings, sleeves and inserts, and shall do all the correcting Work necessary should any be omitted or not properly located.

2.05 HANGERS AND SUPPORTS

A. General

Provide supports, hangers and other devices necessary to support firmly and substantially the piping and the apparatus described in this specification. Provide stainless steel pipe hangers and supports of which design and manufacture comply with MSS SP-58. Select and apply pipe hangers and supports complying with MSS SP-69. Fabricate and install pipe hangers and supports complying with MSS-SP-89.

B. Riser Supports

Support vertical risers with friction clamps attached to the pipe above the floor slabs at each floor. Provide dielectric spacers where applicable.

C. Spacing of Supports

Maximum support spacing shall be as indicated below. Provide additional supports as required for concentrated loads.

1. Copper up to 1-1/4": 5 feet on center
2. Copper 1-1/2" and 2"; 8 feet on center
3. Cast iron: 5 feet or each pipe length, whichever is shorter
4. Vertical risers: Support at base of each stack and riser, copper not more than 10 ft. intervals.

D. Types of Supports

1. All piping larger than 3 inch diameter shall be supported by clevis type pipe hangers with 5/8 inch adjustable steel rod hangers. Piping which is subject to movement of 1/4" or more shall be provided with roll type hanger supports.
2. All piping 2-1/2" and 3 inch diameter shall be supported by clevis type pipe hangers with 1/2" adjustable steel rod hangers. Piping which is subject to movement of 1/4" or more shall be provided with roll type hanger supports.
3. All piping up to 2 inch diameter shall be supported by pipe rings or bands with 3/8 inch steel rod hangers.
4. Where the weight of piping or other apparatus makes it impractical to support same from ceiling alone, flanged pipe standards shall be installed to support the weight of piping, valves and fittings, however, main passageways and access space shall not be obstructed. Piping which is subject to movement of 1/4" or more shall be provided with roll type supports.

E. Pipe Covering Protection Shields

1. Pipe covering protection shields shall be provided at each support point on insulated piping. Pipe support types shall be sized for the outside diameter of the covering.
2. Shields for piping up to and including 4" shall be 12" long, 16 gauge galvanized steel and shall span an arc of 180 degrees. Provide 15 psi compressive strength calcium silicate insulation inserts between the shield and the piping.
3. Pipe supports shall be galvanized steel. Pipe supports shall be copper plated steel for uninsulated copper piping.

2.06 CLEANOUTS

- A. Cleanout and plugs shall be cast-bronze or brass, threads complying with ANSI B2.1, countersunk head, as manufactured by Josam, Smith, Zurn, or equal.
- B. Install in waste piping as indicated; as required by code; at each change in direction of piping greater than 45 degrees, at minimum intervals of 50' for piping 4" and smaller; and at base of each conductor. Cleanouts for piping of 4" and smaller shall be same size as pipe.

2.07 WATER METERS

Water meter shall be furnished by Searsport Water District (SWD) and installed by the Contractor.

2.08 PLUMBING FIXTURES

- A. Fixture trim, traps, faucets, and escutcheons exposed to view in finished spaces shall be I.P.S. brass with manufacturer-applied polished chromium plating (CP) over nickel finish. Chrome paint shall not be acceptable.
- B. Vitreous china fixtures shall be regular selection, fused and vitrified to produce homogeneous material with close grain without pores. Surfaces that contact walls, floors and other fixtures shall be set true.
- C. Vitreous china and enameled cast-iron fixtures shall be white throughout. Water closet seats shall match water closet fixture color.
- D. Water Closet (ADA)

1. Kohler, American Standard, Eljer or equal, 1.6 gallon flush, white vitreous china, wall-mounted, siphon jet elongated bowl with 1-1/2 inch top spud. Top of seat set 18 inches above the finished floor.
2. Anti-microbial solid plastic white open front seat with check hinge and stainless steel mounting hardware.
3. Sloan Royal, Zurn, Delaney, or equal 1.6 gallon water conserving chrome-plated flush valve with vacuum breaker and 1 inch screwdriver angle stop, ADA compliant handle.
4. Bolt caps, floor flange, brass bolts, nuts and washers, setting seal ring as required to suit.

E. Lavatory (ADA)

1. Kohler, American Standard, Eljer or equal 20" X 27" white vitreous china lavatory, fabricated for concealed arm support. Drill lavatories for 11-1/2" centers.
2. Chrome-plated supply faucet, 0.5 GPM flow restrictor, with valvet units, 4" wrist control handles and gooseneck spout with aerator, K-13885 1-1/4" offset drain with open strainer.
3. 1-1/4" X 1-1/2" chrome-plated, cast-brass "P" trap with cleanout and chrome-plated flange at wall. Tailpiece shall be offset type for handicapped lavatories.
4. 3/8" I.P.S. offset angle supplies with loose key stops.
5. All trim under lavatory shall be insulated and trap mounted parallel to wall.

2.09 WATER HEATERS

Electric Single Point of Use Water Heater: Electric Supply 240 Volt, single phase, 60 Hz. Input Rating (Kilowatts) 3.5 kW at 240 Volt. Temperature Rise at 0.5 GPM 48°F. Immersion Heaters Heavy Duty with pre-wired leads. Unit shall have a replaceable filter in the inlet connector and flow regulator in the outlet connector. Element shall be iron free, nickel chrome material. Acceptable Manufactures & Model Eemax – SP35. Controlled Energy Corporation – RP1 or approved Equal.

2.10 UNDERGROUND HOLDING TANK ALARM SYSTEM

- A. Provide tank alarm system to monitor high liquid levels in underground sewage holding tank. The system shall be designed to sound an audible horn and illuminate a visible red beacon light to notify of high liquid levels. Provide a silence switch to turn horn off while fixing the alarm situation which will automatically reset itself when the liquid level is lowered. The red alarm light shall remain on until the liquid level is high. Provide test button for testing of the unit's alarm light and horn. Set alarm to sound at 75% of total tank capacity.
- B. Provide normally open level float switch with water and oil resistant cable.
- C. Electrical Requirements: 120 VAC primary, 12 VAC secondary, 6 Watt max., 60 Hz.
- D. Alarm shall be UL Listed. Type 3R non-metallic enclosure shall be rated for outdoor use.
- E. Manufacturer: Provide tank alarm system of the following:
 - 1. Conery Mfg. Inc.,
 - 2. American Manufacturing Company, Inc., or approved equal.

2.11 MECHANICAL INSULATION

- A. Insulation when installed, shall have composite (insulation, jacket and adhesive) fire and smoke hazard ratings as tested by Procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding a flame spread of twenty five (25), fuel contribution of fifty (50) and smoke developed of fifty (50).
- B. Accessories such as cements and canvas shall have the component ratings as listed above for composite insulation in a wet as well as dry state. Any supplemental treatment of jackets or facings, that is not inherent to the product to impart increased flame and smoke safety ratings to meet the Specification is prohibited.
- C. Piping. All interior cold and hot water piping shall be insulated with 1 inch thick molded fiberglass, ANSI/ASTM C547 heavy-density, two-piece insulation "K" value 0.24 at 75° F mean temperature, with PVC service jacket with self-seal feature. Longitudinal seam in jackets of piping insulation shall be sealed with an approved vapor seal adhesive. Insulation shall be manufactured by Certain Teed Corporation, Owens-Corning Fiberglass Corporation, Manville, or equal, thermally equivalent insulation.
- D. Fittings and valves. All fittings and valves shall be insulated with molded fiberglass fittings secured in place with 20-gauge corrosion-resistant wire and smooth finished with a PVC service jacket.

All fittings and valves shall be additionally vapor-sealed with a layer of fiberglass fabric embedded between two flood coats of white vapor barrier lag cement. Lap glass fabric 4 inches onto adjacent pipe covering.

No unions shall be covered. All insulation terminating at unions shall be protected by metal or plastic protectors.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Workmanship. All Work shall meet the requirements of Authorities having jurisdiction over the Work. Provide all hoisting, scaffolding and staging necessary to install the Work as required in accordance with applicable safety regulations.
- B. Chases, Openings and Supports. The size and location of all chases, supports, openings, etc, required for plumbing installations shall be coordinated with the appropriate trades.
- C. Cutting and Patching. Coring, cutting and patching shall be minimized. The plumbing Work shall be carefully coordinated in advance in cooperation with the other trades to prevent any on-site cutting and patching, and any additional cutting of new construction shall be done only with the written approval of the Department.
- D. Protection of Fixtures, Materials and Equipment. Pipe openings shall be capped or plugged during installation. All fixtures and equipment shall be tightly covered and protected against dirt, water, chemical or mechanical injury during the installation. At the completion of all Work, the fixtures, materials and equipment shall be thoroughly cleaned.
- E. Cold Water Distribution Systems.
 - 1. The cold water distribution system shall be installed with a pitch down toward the main gate valves. Provide drains at piping low points.
 - 2. Each fixture shall be individually isolated by a valve at the fixture. Drops to fixtures shall have tees with threaded plugged outlets installed at the base for drainage purposes. Pipe shall be installed parallel to the lines of the building unless shown otherwise. All pipe shall be exposed unless shown otherwise or specified herein. All piping, fittings, and valves shall be installed a sufficient distance from other Work to allow not less than 3

inches from such other Work and between finished coverings on the different services.

3. Pressure gauges shall be installed where indicated.
4. Valves shall be installed where shown on the Drawings and otherwise specified and shall be gate type unless otherwise noted. Valves shall not be installed with stems below the horizontal. Each fixture and piece of equipment shall be individually controlled by a valve at the unit.
5. For solder and brazed joints, tubing shall be cut square and burrs removed. Both inside of fittings and outside of tubing shall be well cleaned with a steel brush before sweating. Care shall be taken to prevent annealing of fittings and hard drawn tubing when making connections. Installation shall be made by competent workmen in accordance with manufacturer's recommendations. Mitering of joints for elbows and notching of straight runs of pipe for tees will not be permitted. Joints for soldered fittings shall be made with paste flux and solid string or wire solder. Cored solder shall not be permitted.
6. Provisions shall be made throughout the systems for contraction and expansion of horizontal runs and vertical risers by means of threaded swing joints and expansion loops. Branches from risers shall be installed with swing joints.
7. Unions shall be provided where required for disconnection, but shall not be concealed in walls, ceilings or partitions. Where union connections are required in concealed spaces, right and left couplings shall be used.
8. All piping end connections shall be made water and air tight. Threaded connections shall be completely sealed with pipe joint compound applied to the male threads only.

F. Installation of Sanitary Drain Piping

1. General: Furnish and install complete sanitary system to convey waste from all fixtures and equipment as indicated and/or described in these plans and specifications. The use of double 'Y's in the horizontal shall not be permitted. All piping shall be installed straight and true and located concealed within building construction except as otherwise indicated.
2. Pitch: All horizontal 4" sanitary drainage piping shall be pitched at least 1/8"/ft in direction of flow. Make changes in direction of drainage lines with 45 wyes, long turn wyes, or sweep bends.

3. Cleanouts: Furnish and install all cleanouts indicated on the Drawings and/or where required in sanitary pipes so that the distance between cleanouts does not exceed 50' for piping 4" and smaller. Cleanouts shall be installed at the base of all risers and at each change of direction. In sanitary system, install cleanouts same as for soil or waste piping or dandy cleanouts before going below grade.
4. Underground Piping: Install underground piping to comply with the plumbing code and applicable recommendations of the Cast Iron Soil Pipe Institute. Install where indicated and in accordance with code. Lay underground building drains beginning at low point of systems, true to grade and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install required gaskets in accordance with manufacturer's recommendations for use of lubricants, cements, and other special installation requirements. Clear interior of piping of dirt and other superfluous material as work progresses. Maintain swab or drag in line and pull past each joint as it is completed. Place plugs in ends of uncompleted piping at end of day or whenever work stops.

G. Pipe Hangers, Inserts and Sleeves.

1. All piping shall be supported from structural members or from inserts in the concrete slabs or walls.
 - a. Horizontal overhead runs of pipe shall be hung with adjustable wrought iron or malleable iron pipe hangers spaced as indicated.
 - b. Hangers for copper tubing shall be copper-plated.
 - c. Where cinder fill or acid soil is encountered in the installation of copper or steel pipe underground, the pipe shall be completely wrapped with two layers of asphalt-impregnated building paper and seal-coated with coal-tar pitch or asphalt, and installed on a 6-inch bed of selected sand or gravel and backfilled with selected material to a depth of 6-inches above the pipe.
 - d. Piping under slabs on grade shall be firmly supported on the ground for its entire length.
 - e. Chain strap, perforated bar, or wire hangers shall not be permitted.
 - f. Trapeze hangers may be used in lieu of separate hangers on pipes running parallel to each other and close together.

2. Sleeves.

- a. Galvanized steel pipe sleeves and suitable floor and ceiling plates to match the pipe finish shall be installed where pipes pass through floors, walls, or partitions, except where noted otherwise herein or on the Drawings. Sleeves through floors shall extend 12 inches above the finished floor.
- b. Sleeves for pipe passing through outside walls shall be schedule 40 black steel pipe with integral water stop, galvanized after fabrication and sized for installation of mechanical seals to be installed in the building side of sleeves. The outside end of sleeve shall be sealed with quick setting grout. The annular space between the wall and the pipe shall be watertight and gastight. Length of sleeves shall equal wall thickness.

3. Pipe Penetration Seals.

Provide seals for all pipe openings through walls, floors or ceilings. Pack openings between pipe and substrate with mineral wood fiber to within 1" of each end of sleeve and seal both sides airtight with 1" thick non-hardening, resilient caulk; Dow Corning 780, General Electric Silicone, 3M Silicone or equal.

3.02 MECHANICAL INSULATION

- A. All insulation shall be installed with smooth and even surfaces. Scrap pieces of insulation shall not be used where a full section will fit. Insulation materials shall not be applied until all surfaces to be covered are tested for leaks, cleaned and dried, and all foreign material, such as rust, scale, dirt, etc., has been removed. Insulation shall be clean and dry when installed and during the application of any finish. Insulation shall be neatly finished at hangers and termination points.
- B. Provide all scaffolding and staging necessary to install the Work as required in accordance with applicable safety regulations.
- C. Piping: All piping shall be covered with fiberglass insulation; insulation shall be fastened with 20 gauge corrosion resistant wire. Wire shall be spaced not more than 18 inches on centers. Insulation shall be covered with PVC jacket. The jacket shall be fitted after the pipe and insulation has been installed. Install insulation jacket using only the welding adhesive manufactured specifically for the jacket used. The jacket shall be installed in accordance with the manufacturer's instructions and shall be vapor-tight.

- D. Valves, flanges and fittings shall be covered with preformed molded fiberglass. Molded fiberglass fittings shall be secured in place with 20 gauge corrosion resistant wire. Molded fittings shall be the same thickness as the adjacent pipe covering. Insulated fittings shall be covered with PVC jacket. Jacket installation shall be as specified in the prior paragraph; flanges, valves, etc., shall be insulated and covered; unions shall not be insulated or covered.

3.03 IDENTIFICATION TAGS

- A. Identification tags made of brass shall be provided on all plain and insulated piping at intervals of not more than 25 feet and at either side of points where pipes pass through walls. Vertical piping shall also be tagged in accessible places. All valves, except the stops at the plumbing fixtures, shall be tagged. Tags shall be approximately 3 inches in diameter with markings stamped and abbreviated, and shall be wired to piping, covering, or valve with No. 12 Awg copper wire. Lettering and numbers on tags shall be 1/2-inch high. Valve tags shall have the services abbreviated thereon, as follows:

W1 for potable cold water

- B. Place a sign near the underground holding tank alarm with the words, "Non-Hazardous Industrial Wastewater Holding Tank Alarm."

3.04 STERILIZATION

The entire water distribution systems shall be thoroughly sterilized with a solution containing not less than 50 parts per million of available chlorine. The chlorination material shall be either liquid chlorine conforming to the requirements of Military Specification MIL-C-12460, or calcium hypochlorite or chlorinated lime conforming to Federal Specification O-C-114, and shall be introduced into the system in a manner approved by the Department. The sterilization solution shall be allowed to remain in the system for a period of 6 hours, during which time all valves and faucets shall be opened and closed several times. After sterilization, the solution shall be flushed from the system with clean water until the residual chlorine content is not greater than 0.2 parts per million.

TESTING, ADJUSTING AND PUTTING IN SERVICE

- A. All water piping shall be tested by the Contractor and made watertight under a hydrostatic pressure of 100 psig or 150 percent of normal working pressure, whichever is greater, for 2 hours continuous with no allowable pressure drop, as approved by the Authority. At the completion of the Work, all parts of the installation shall be thoroughly gone over in the presence of the Department, testing out supplies and drainage on all fixtures, operation of faucets, and automatic equipment. All necessary adjustments or replacements shall be made as

directed by the Department. All flush valves, hot water systems, and automatic equipment shall be adjusted for quiet and proper operation.

- B. All equipment required for tests shall be furnished by the Contractor.

3.06 CLEANING

At the completion of the Work, all parts of the installation shall be thoroughly cleaned and the subcontract closed out to the satisfaction of the Department before acceptance.

PART 4 MEASUREMENT AND PAYMENT

Method of Measurement. The Work to be done under this Section will be measured by lump sum.

Basis of Payment. The accepted Work under this Section will be paid for at the contract lump sum, complete and accepted in place which price shall be full compensation for furnishing all materials, labor and other incidentals necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
815.301	Security Entrance Building	Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 15500 - HEATING, VENTILATING & AIR CONDITIONING

PART 1 GENERAL

1.01 EXTENT OF WORK

- A. The Work to be done under this Section consists of furnishing all materials, labor, tools and equipment, and performing all operations necessary to complete all heating, ventilating and air conditioning.
- B. The Work shall be constructed and finished in every respect in a good, workmanlike and substantial manner, to the full intent and meaning of the Drawings and Specifications. All parts necessary for the proper and complete execution of the Work, whether the same may have been specifically mentioned or not, or indicated, shall be done or furnished in a manner corresponding with the rest of the Work as if the same were specifically herein described.
- C. The Work includes but is not limited to the following items:
 - 1. Ventilation air systems and appurtenances.
 - 2. Air conditioning system and appurtenances.
 - 3. Heating system.
 - 4. Piping, ductwork and accessories.
 - 5. Hangers, tie-rods, miscellaneous support steel and related materials.
 - 6. Mechanical insulation
 - 7. Automatic temperature controls.
 - 8. Testing, adjusting and balancing.

1.02 WORK NOT INCLUDED

- A. The following items in connection with the Work, including Electric Unit Heaters, or adjoining the Work of this Section, are specified in other Sections of these Specifications:

1. Plumbing.
2. Power wiring and disconnect switches.
3. Painting (except as noted herein).
4. Miscellaneous metals.

1.03 SUBMITTALS

- A. The Drawings are diagrammatic, and locations of connections approximate, but the Drawings shall be followed as closely as actual conditions will permit. All changes to the Drawings to make the Work conform to governing regulations or to avoid any obstacles shall be made by the Contractor with the approval of the Department at no additional cost to the Department. All changes shall require scaled drawings which shall be prepared by the Contractor, submitted to the Department for approval, prior to installation.
- B. Because of the small scale of the Drawings it is not possible to indicate all offsets and accessories that may be required for the installation. Therefore, the Contractor shall carefully coordinate the structural and finish conditions affecting the Work and shall arrange such details accordingly furnishing and installing whatever items are required to meet such conditions.
- C. All equipment and appurtenances intended to be incorporated into the Work shall be reviewed and approved by the Department prior to ordering materials and installation. The shop drawings shall show manufacturers' names and catalog numbers; and detailed drawings and product data for wiring, piping and equipment, together with performance characteristics for all items. Submit conduit layout drawings showing conduit runs; control schematic drawings; list of manufacturer's spare parts; record drawings of HVAC installation; proof of qualification for HVAC systems balancing personnel; proof of qualification for personnel installing temperature control systems; and testing and balancing report. Items not conforming to the requirements of the Drawings and/or the Specifications will be rejected. No partial submittals will be accepted. All materials and equipment shall be of such dimensions that they may be moved into and out of the completed building through the openings provided.

1.04 ORDINANCES, PERMITS AND FEES

- A. The Work under this Section shall comply with all laws, ordinances and regulations of the authorities having jurisdiction.

- B. The Contractor shall obtain all necessary permits and shall arrange for all mandatory inspections.

1.05 STANDARDS AND CODES

- A. Materials and installation shall conform to the standards and codes of the following organizations and shall be so labeled or listed:
1. Air Conditioning and Refrigerating Institute (ARI)
 2. Air Moving and Conditioning Association (AMCA)
 3. American Air Balance Council (AABC)
 4. American Society for Testing and Materials (ASTM)
 5. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
 6. American Society of Mechanical Engineers (ASME) - Boiler and Pressure Vessel Code.
 7. American Welding Society (AWS)
 8. Department of Environmental Protection (DEP)
 9. Factory Insurance Association, Factory Mutual, American Mutual, Kemper, or any other applicable insuring organization
 10. Institute of Boiler and Radiator Manufacturers (IBR) - Test Codes
 11. Municipal Codes
 12. National Bureau of Standards (NBS)
 13. National Electric Code (NEC)
 14. National Environmental Balancing Bureau (NEBB)
 15. National Fire Protection Association (NFPA)
 16. Public Safety Authorities
 17. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)

18. State Fire Marshall Regulations
19. State Regulations and Governmental Codes Applicable
20. Underwriters Laboratories, Inc. (UL)

1.06 OPERATION AND MAINTENANCE INSTRUCTIONS

Instructions covering the operation and maintenance of each item of equipment shall be furnished in accordance with Section 01600 - MATERIAL AND EQUIPMENT. Upon completion of the Work and at a time approved by the Department, the Contractor shall arrange for qualified manufacturer's service (not sales) representatives to instruct the Department's personnel in the operation, adjustment, and maintenance of each system and its parts.

PART 2 PRODUCTS

2.01 GENERAL

- A. All items of mechanical equipment shall be new and of the best quality used for the purpose in good commercial practice and shall be the products of reputable manufacturers. Each major component of equipment shall have the manufacturer's name, address and serial or catalog number on a name plate, securely affixed in a conspicuous and accessible place. The operating characteristics of such equipment shall be included. Belts, pulleys, chain, gears, couplings, fan wheels, projecting set screws, keys, and other rotating or moving parts shall be fully enclosed or properly guarded to protect any person in close proximity.
- B. Horsepower indicated on the Drawings and/or specified herein shall not be exceeded.
- C. Additional wiring and/or controls resulting from the installation of equipment shall be included at no additional cost to the Department.
- D. Descriptions of equipment or model numbers are for reference to indicate the type, quality and function of the equipment and space requirements.

2.02 REFRIGERANT AND CONDENSATE DRAIN PIPING

- A. Materials: Condensate drain piping and Refrigerant piping shall be copper, Type L.

1. Construction: 95/5 solder joint with threaded adapters as required.
2. Piping: Type L, hard drawn ASTM B88.
3. Fittings: Wrought copper, 95/5 solder, ANSI B16.22 or cast bronze, 95/5 solder, ANSI B16.18.

2.03 ELECTRIC UNIT HEATERS

- A. General. Electric unit and convection heaters shall be of the capacity, rating and suitable for operation on the voltage and phase as shown on the Drawings. A transformer shall be supplied where required for operating the fan and control circuit. The heaters shall be automatically controlled by built-in thermostats through internally mounted magnetic contactors. All unit heaters shall be provided with ceiling or wall mounting brackets as required. The heaters shall be Electromode, Q Mark, Berko, Markel or equal.
- B. Electric unit heaters shall be of the forced convection type and each shall consist of a fan, finned type heaters, and housing. Housing shall be reinforced steel fitted with adjustable louvers to permit directing the heated air where required. All ferrous parts shall be treated to prevent rusting before application of a baked enamel finish. Heating elements shall consist of a tubular element having non-ferrous fins for the rapid transfer of heat. Castings, if used, shall be free from defects of any kind. A non-radio interfering, single phase, totally enclosed motor with permanently lubricated bearings shall drive a propeller type fan. An automatic reset thermal cutout shall be provided to automatically shut off the electric supply in the event of overheating. A fan delay switch shall be provided to prevent fan operation until heat is developed and a switch to maintain fan operation on shutdown until the heating element cools down.
- C. Electric radiators shall be of the capacity and rating shown on the Drawings and suitable for operation on 240 volt, 1-phase power. Heaters shall be UL listed. Heating element shall consist of a resistance wire enclosed in a steel sheath to which steel plate fins are brazed. Fan motor shall be impedance protected, permanently lubricated. Heater shall be provided with fan delay switch and bi-metallic snap-action type thermal cutout. Thermostat shall be single pole. Heater shall be provided with power disconnect switch. Surface mounted enclosure shall be steel with a louvered front cover. Enclosure shall have a baked enamel paint finish. Heaters shall be Markel, Berko, Q Mark, Electromode or equal.

2.04 AIR CONDITIONING UNIT

- A. General
 1. Indoor, in-the-ceiling-mounted, direct-expansion fan coil to be matched with the heat pump condensing units. Units shall fit standard 2 ft x 2 ft

- and 2 ft x 4 ft ceiling grid.
2. Unit shall be rated (when matched with appropriate outdoor unit) per ARI Standards 210/240. Units shall be certified by UL.

B. Indoor Unit

1. Indoor, direct-expansion, low-profile in-ceiling fan coil. Fan coil shall be shipped complete with cooling coil, fan, fan motor, piping connectors, electrical controls, condensate pump, and hanging brackets.
2. Unit Cabinet:
Indoor cabinet shall be constructed of zinc-coated steel. Fully insulated discharge and inlet grilles shall be attractively styled, high-impact polystyrene. Cabinet shall have filter tracks and replaceable or cleanable filters which shall be accessible from below.
3. Fans:
Fan shall be centrifugal, direct-drive blower type with air intake in center of the unit and discharge on the perimeter. Air louvers shall be adjustable for 2, 3, or 4-way discharge.
4. Coil:
Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a factory-installed condensate pump and drain connection for hose attachment to remove condensate.
5. Motors:
Motors shall be totally enclosed and permanently lubricated with inherent overload protection.
6. Electric Heater:
Units shall be equipped with factory-mounted electric heaters. Minimum protections shall include overcurrent and high temperature protection.
7. Controls:
Controls shall be 24 v, and shall be easily operated by the user from a wall-mounted thermostat. Float control shall be in the condensate sump to shut unit down in case of pump malfunction. The wall-mounted thermostat will have 3 fan speed selections, and an auto/manual switch shall be supplied for field installation. The R-22 refrigerant is controlled with a piston-type refrigerant metering device, and evaporator coil freeze protection shall be provided.
8. Filters:
Unit shall have filter track with replaceable or cleanable filters.

9. Electrical Requirements:
Unit shall operate on 230 v 60 Hz power supply as specified on the equipment schedule. Power and control connections shall have terminal block connections.
10. Fresh Air Intake
Unit shall include filter and duct connections to provide for outdoor ventilation air. Booster fan and adjustable speed control or motor operated damper shall be provided to properly balance fan to achieve required airflow rate.

2.05 AIR COOLED CONDENSING UNIT

A. General

1. Outdoor-mounted, air-cooled split system outdoor section suitable for on-the-ground installation. Unit shall consist of a hermetic reciprocating, scroll, or rotary compressor, an air-cooled coil, propeller-type blow-thru outdoor fans, reversing valve, accumulator, holding refrigerant charge, heating mode metering device, and control box. Units shall function as the outdoor component of an air-to air cooling and heating system.
2. Unit shall be used in a refrigeration circuit matched to a cooling fan coil unit.

B. Unit construction shall comply with ANSI/ASHRAE 15, and with the NEC.

Units shall be constructed in accordance with UL standards.

Units shall be listed in the CEC directory.

Unit cabinet shall be capable of withstanding Federal Test Standard No. 141 (method 6061) 500-hour salt spray test.

Air-cooled condenser coils shall be leak tested at 350 psig air pressure with the coil submerged in water.

C. Warranty

One-year parts, 5-year compressor limited warranty.

D. Condensing Unit

1. Factory assembled, single piece, air-cooled outdoor unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor, charge of R-22 refrigerant, and special features required prior to field start-up.
2. Unit Cabinet:
 - a. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked-enamel finish.
 - b. Unit access panels shall be removable with minimal screws and shall provide full access to the compressor, fan, and control components.
 - c. Outdoor compartment shall be isolated and have an acoustic lining to assure quiet operation.
3. Fans:
 - a. Outdoor fans shall be direct-drive propeller type, and shall discharge air horizontally.
 - b. Outdoor fan motors shall be totally-enclosed, single-phase motors with class B insulation and permanently-lubricated sleeve bearings. Motor shall be protected by internal thermal overload protection.
 - c. Shaft shall have inherent corrosion resistance.
 - d. Fan blades shall be corrosion resistant and shall be statically and dynamically balanced.
 - e. Outdoor fan openings shall be equipped with PVC coated protection grille over fan and coil.
4. Compressor:
 - a. Compressor shall be fully hermetic.
 - b. Compressor shall be equipped with oil system, operating oil charge, and motor. Internal overloads shall protect the compressor from overtemperature and overcurrent. Scroll compressors shall also have high discharge gas temperature protection if required.
 - c. Motor shall be NEMA rated class F, suitable for operation in a refrigerant atmosphere.
 - d. Reciprocating compressors shall be equipped with crankcase heaters to minimize liquid refrigerant accumulation in compressor during shutdown and to prevent refrigerant dilution of oil.
 - e. Compressor assembly shall be installed on rubber vibrations isolators and shall have internal spring isolation.
 - f. Compressor shall be single-phase as specified on the contract drawing.
5. Outdoor Coil:

Coil shall be constructed of aluminum fins mechanically bonded to internally enhanced, seamless copper tubes which are cleaned, dehydrated,

and sealed.

6. Refrigeration Components:
Refrigerant circuit components shall include brass external liquid line service valve with service gage port connections, suction line service valve with service gage connection port, service gage port connections on compressor suction and discharge lines with Schrader type fittings with brass caps, accumulator, pressure relief, reversing valve, and heating mode metering device.
7. Controls and Safeties:
Operating controls and safeties shall be factory selected, assembled, and tested. The minimum control functions shall include the following:
 - a. Controls:
 1. Time delay restart to prevent compressor reverse rotation on single-phase scroll compressors.
 2. Automatic restart on power failure.
 3. Safety lockout if any outdoor unit safety is open.
 4. A time delay control sequence provided through the fan coil board, thermostat, or controller.
 5. High-pressure and liquid line low-pressure switches.
 6. Automatic outdoor-fan motor protection.
 7. Start capacitor and relay.
 - b. Safeties:
 1. System diagnostics.
 2. Compressor motor current and temperature overload protection.
 3. High pressure relief.
 4. Outdoor fan failure protection.
8. Electrical Requirements:
 - a. Unit shall operate on 230 v single-phase.
 - b. Unit electrical power shall be a single point connection.
 - c. Unit control voltage to the indoor-fan coil shall be 24 v.
 - d. All power and control wiring must be installed per NEC and all local building codes.
 - e. Unit shall have high and low-voltage terminal block connections.

2.06 BATHROOM EXHAUST FAN

- A. Provide bathroom exhaust fan, designed for ceiling mounting of type, size, and capacity as scheduled. Provide HVI (Home Ventilating Institute) certified ratings seal. Fan shall be UL listed.

- B. Type: Provide galvanized steel housing with fan impeller directly connected to motor, and removable as unit from housing for service. Provide integral backdraft damper in fan discharge.
- C. Grille: Provide polymeric louvered grille with flange on intake with thumbscrew attachment to fan housing.
- D. Motor: Provide permanent split-capacitor motor, permanently lubricated, with grounded cord and plug.
- E. Electrical: Provide junction box for electrical connection on housing, and receptacle for motor plug-in.

Furnish remote fan speed control, solid state, capable of controlling fan speed from full speed to approximately half speed.

- F. Provide wall cap with transition.
- G. Manufacturer: Subject to compliance with requirements, provide bathroom exhaust fan of one of the following:
 - a. Broan Mfg. Co., Inc.
 - b. Fasco Industries, Inc.
 - c. NuTone Div.
 - d. Rittenhouse Div.
 - e. Thermador/Waste King

2.07 DUCTWORK

- A. Ductwork required for the mechanical ventilation systems shall be constructed of aluminum sheets, as follows:

Maximum side (inches)	Minimum thickness B&S Gauge
0-12	22

Ducts shall conform to the dimensions indicated and shall be straight and smooth on the inside with joints neatly finished with. The sheet metal installation shall follow the Sheet Metal and Air Conditioning Contractors National Association Inc., recommendations as listed in their latest issue of HVAC Duct Construction Standards, and as shown on the Drawings.

2.08 DUCTWORK ACCESSORIES

A. Flexible Connections.

Flexible duct connections for preventing the transmission of vibration through the sheet metal ducts shall be provided between suction and discharge openings in the fans and the ducts with which they are connected. The material used shall weigh not less than 30 ounces per square yard, of neoprene-coated glass fabric with a minimum of 1-inch slack complete with metal color frames. The flexible material shall be furnished with all necessary angles, bolts, and clips for securing it to the fans or adjoining ducts. Flexible connections shall be vapor tight at the flanged connections.

B. Duct Penetrations.

1. Provide sleeves for ducts passing through walls. Duct sleeves shall be of stainless steel and of a sufficient gauge for adequate support of opening, but in no case less than 16 gauge.
2. Where ducts pass through walls which are exposed to view, conceal space between construction opening and duct with sheet metal flanges of same gauge as duct. Overlap opening on four sides by at least 1-1/2 inches. Fasten to duct.
3. Seal duct penetrations with non-shroud fire proof sealant.

2.09 DUCTWORK SUPPORTS

- A. Provide fasteners, anchors, rods, straps, trim and angles for support of ductwork. Provide supports in accordance with SMACNA HVAC Duct Construction Standards.
- B. Straps shall be bent under bottom of duct a minimum of 1" and securely fastened to bottom and sides of duct with sheet metal screws.

2.10 LOUVERS

- A. The louvers required are of two types:
(a) fixed, (b) combination fixed louver and motor operated damper.
- B. Fixed louver shall be frame mounted for exterior walls with a removable 1/4-inch mesh, 16 gauge aluminum bird screen on the interior face in extruded frame, held with stainless steel screws. The louver shall be of the drainable blade type assembly of extruded aluminum frame and blades of aluminum alloy 6063-T5, not

less than 0.125 inch thick. The louver assembly shall be 4-inch deep and shall have a Kynar 500 finish of color selected by the Engineer.

2.11 DAMPERS

- A. Motor-operated dampers shall be 4 or 5-inch deep. Dampers shall be of the same material as fixed louvers and shall have Kynar 500 finish. Dampers shall have polyurethane foam blade edge and jamb seals. Motor-operated dampers shall have motor operators interlocked with the fan with which it is associated. Motor operator shall be for 115-volt, single phase, 60-Hertz power and shall be furnished complete with any necessary transformer. Motor operator shall be wired to require power to open the louver and shall have spring return to close the louver. Electrical interlock of motor is shown on the Electrical Drawings. Motor shall be mounted in a sturdy welded external support bracket. Assembly shall be properly aligned and tested for satisfactory operation before shipment from factory.

- B. Volume Dampers.

Round volume damper shall be of the butterfly type, 20 ga. galvanized steel frames, 14 ga. equivalent two-layer galvanized steel blade with full circumference neoprene blade seal and with approved indicating and locking quadrant. Damper shafts shall be clearly and permanently marked to show blade orientation from outside the duct.

2.12 MECHANICAL INSULATION

- A. Insulation when installed, shall have composite (insulation, jacket and adhesive) fire and smoke hazard ratings as tested by Procedure ASTM-E-84, NFPA 255 and UL-723, not exceeding a flame spread of twenty five (25), fuel contribution of fifty (50) and smoke developed of fifty (50).
- B. Accessories such as cements and canvas shall have the component ratings as listed above for composite insulation in a wet as well as dry state. Any supplemental treatment of jackets or facings, that is not inherent to the product to impart increased flame and smoke safety ratings to meet the Specification is prohibited.
- C. Ductwork. Outside air duct shall be insulated. Insulation on round duct shall be 1-1/2 inch thick fiberglass flexible duct insulation, minimum density of one (1) pound per cubic foot, with a vapor barrier jacket of Reinforced Foil Faced Kraft Paper having a maximum vapor permeance of 0.02 perms.
- D. Condensate drain lines and refrigeration suction lines may be insulated with flexible, elastomeric insulation, Armaflex by Armstrong, or approved equal. Insulation shall be 1/2 inch thick. Butt joints and seams shall be sealed with an

adhesive as recommended by the insulation manufacturer. A weather-resistant, UV resistant protective finish shall be applied to all insulation located outdoors.

2.13 AUTOMATIC TEMPERATURE CONTROLS

- A. Electric Unit Heaters and Radiators.
Each electric unit heater and radiator shall be controlled by an individual unit mounted thermostat to keep space temperature above the set point of 72 degrees F, adjustable.
- B. Bathroom Exhaust Fan EF-1.
EF-1 and associated damper shall be controlled by a switch specified under Division 16 ELECTRICAL.
- C. Air conditioning unit
Provide manufacturer's standard controls.

PART 3 EXECUTION

3.01 INSTALLATION

- A. General.
 - 1. The required HVAC Work shall be carefully coordinated with the Work of other trades. All Work shall be installed consistent with the best current trade practices.
 - 2. Installation shall conform to all applicable state and national codes and standards including, but not limited to the State Building Code and applicable standards developed by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), Sheetmetal and Air Conditioning Contractors National Association Inc. (SMACNA), the BOCA Basic National Mechanical Code, and the National Fire Protection Association (NFPA) and in accordance with the manufacturer's recommendations.
 - 3. Erect equipment in a neat and workmanlike manner, align, level and adjust for satisfactory operation; install so that connecting and disconnecting of piping and accessories can be readily made and so that all parts are easily accessible for inspection, operation, maintenance, and repair.
 - 4. Provide all hoisting, scaffolding and staging necessary to install the Work as required in accordance with applicable safety regulations.

B. Heating.

1. The heating system shall be installed complete and ready for operation, as shown on the Drawings.
2. Unit heaters and radiators shall be installed at the locations shown on the Drawings.

C. Ventilating.

1. The ventilation system shall be installed complete and ready for operation, as shown on the Drawings.
2. Dampers of various types shall be installed in the manner indicated on the Drawings, complete with motor operators and gravity operator type where required.
3. Ductwork shall be anchored securely to the structure in an approved manner and shall be installed so as to be completely free from vibrations under operation. Duct anchors in the corrosive atmosphere shall be attached to the structure. Provide packing and sealing of duct penetrations through walls, as indicated. All duct joints shall be made airtight.

D. Air Conditioning.

1. The air conditioning system shall be installed complete and ready for operation, as shown on the Drawings.
2. The air cooled condensing unit shall be installed on concrete pad. Concrete pad shall be leveled.
3. All wiring must comply with applicable local and national codes.
4. Insulate condensate line if installed in a conditioned space.

E. Refrigerant Piping.

1. All piping must follow standard refrigerant techniques and manufacturer's recommendations.
2. Install refrigerant suction piping with 1/2" per 10 feet downward slope in direction of oil return to compressor.
3. Install unions to allow removal of solenoid valves, regulating valves, expansion valves and at connection points to compressors and evaporators.
4. Install flexible connectors at inlet and discharge connections to compressor.

3.02 MECHANIAL INSULATION

- A. All insulation shall be installed with smooth and even surfaces. Scrap pieces of insulation shall not be used where a full section will fit. Insulation materials shall not be applied until all surfaces to be covered are tested for leaks, cleaned and dried, and all foreign material, such as rust, scale, dirt, etc., has been removed. Insulation shall be clean and dry when installed and during the application of any finish. Insulation shall be neatly finished at hangers and termination points.
- B. Provide all scaffolding and staging necessary to install the Work as required in accordance with applicable safety regulations.
- C. Condensate drain lines and refrigeration suction lines may be insulated with flexible, elastomeric insulation, Armaflex by Armstrong, or approved equal. Insulation shall be ½ inch thick. Butt joints and seams shall be sealed with an adhesive as recommended by the insulation manufacturer. A weather-resistant, UV resistant protective finish shall be applied to all insulation located outdoors.
- D. Ductwork. Flexible insulation shall be installed so as to not excessively compress the fiberglass at the duct corners. Seams shall be stapled on 6 inch or less centers with outward cinching staples. Butt all edges of all insulation and seal all joints and seams of vapor barrier with tape of same material as vapor barrier jacket applied with adhesive to provide a continuous vapor seal. Seal all holes for stick clips with tape and adhesive as specified above to provide a continuous vapor seal.

3.03 TESTING, ADJUSTING AND PUTTING IN SERVICE

- A. Upon completion and prior to acceptance of the installation, the Contractor shall subject all systems to the tests specified herein and other such operating tests as may be required by the Department to demonstrate satisfactory functional and operating efficiency. Notice shall be given to the Department before tests are made so that he or his representative can be present. Test, adjust and put in service all systems and make all adjustments as required to make them operate as specified. Operating tests shall cover a period of not less than six hours for each system, and all tests shall be conducted at such time as the Department may approve. All instruments, facilities and labor required to properly conduct the tests shall be provided by the Contractor. Until Substantial Completion, the Contractor shall furnish all electricity. After Substantial Completion, all electricity required will be furnished by the Department.
 - 1. Give detailed instructions, prior to the completion of the Work, to the responsible personnel designated by the Department in the operation and maintenance of all Work installed under this Section. Instructions for each

type of equipment shall be given by a trained factory authorized representative and last no less than four (4) continuous hours of hands-on training at the site for each type of equipment. Equipment types include air conditioning unit, air cooled condensing unit, unit heaters, fans, dampers and controls. A letter with two (2) copies containing the name of the person or persons to whom the instructions were given and the dates of the instruction period shall be submitted to the Department at the completion of the project.

- B. The tightness of ductwork shall be air tested in accordance with the SMACNA HVAC Air Duct Leakage Test Manual using 3 inch w.g. test pressure with leakage class 12 for round duct. All instruments that are not rated to withstand the test pressure shall be disconnected from the system before tests are made. All ductwork and piping shall be tested prior to covering being applied. The Contractor shall repair all leaks and retest as required. All dampers and valves shall be fully open during the tests.
- C. Prior to the start of operational testing and adjusting of the systems, check the rotation of all fans and unit heaters. Check to verify that all dampers and valves are free to open and close. All filters and strainers shall be checked and replaced, if operated during construction. Operate systems only with filters and strainers in place. The temperature control system shall be completely installed before testing and adjusting are started. The temperature control system shall be calibrated simultaneously with the testing and adjusting operation.
- D. Operate all motor driven equipment in the presence of the Department. Correct all defects, including noise, vibration, misalignment and unbalance. Replace all motors and bearings that are noisy or overheat.
- E. Make air system measurements with instrumentation meeting the requirements of AABC, NEBB or SMACNA. All instruments shall be calibrated to the accuracy standards demanded by these organizations. Copies of current calibration certificates shall be available to the Department on request.
- F. Make any necessary changes in the air conditioning units' fan speed to obtain design system conditions. Use tong ammeter when adjusting fan speeds to avoid overloading motor.
- G. All ventilating system equipment shall be adjusted in accordance with the capacities shown on the Drawings, with permissible tolerances as follows:

Supply and exhaust fans	+5% to 10%
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- H. Submit outline of proposed balancing procedures. Following approval of

balancing procedures outline, execute Work and submit a complete report of the air balancing operation including design and actual air flow from terminal devices listed and tabulated by room; complete fan performance data at design and actual operating conditions; ampere readings of all motors together with nameplate data. Tabulate final air system test data on forms equal to those available from AABC, SMACNA or CSI. Balancing report shall include schematic diagram of each duct, including all equipment and appurtenances.

- I. Upon completion of the Work, certify that all systems are properly balanced and are delivering the required amount of air. Deliver six (6) copies of the test report for transmittal to the Department.

3.04 CLEANING

At completion of the Work, all parts of the installation shall be thoroughly cleaned and the Subcontract closed out to the satisfaction of the Department before acceptance.

PART 4 MEASUREMENT AND PAYMENT

Method of Measurement. The Work to be done under this Section will be measured by lump sum.

Basis of Payment. The accepted Work under this Section will be paid for at the contract lump sum, complete and accepted in place which price shall be full compensation for furnishing all materials, labor and other incidentals necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
815.301	Security Entrance Building	Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16000 - GENERAL ELECTRICAL CONDITIONS

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The phrase "Electrical Work" and the "scope of the Electrical Work" shall mean and is intended to include the providing of all labor, material, and equipment to satisfactorily accomplish the installation and tests described or referenced on the Electrical Drawings or in this Electrical Specification.

- B. As a minimum, all Electrical Work will be accomplished in accordance with the most recent edition or revision of the National Electrical Code, NFPA 70. No electrical construction requirements for this project, which are also requirements of the National Electrical Code, will be repeated on the project's Electrical Drawings or in the Electrical Specification. There will be no further reference to specific aspects of the National Electrical Code throughout the Electrical Drawings and Electrical Specification except that:
 - 1. All requirements on the Electrical Drawings or in the Electrical Specification which appear to violate the National Electrical Code are misinterpretations of the intent of the Electrical Drawings or Electrical Specification and will be reviewed with the Electrical Engineer immediately.
 - 2. All requirements on the Electrical Drawings or in the Electrical Specification which are more restrictive than the National Electrical Code and/or are in addition to the National Electrical Code are intended to be requirements over and above those of the National Electrical Code and are to be accomplished as described.
 - 3. Utility requirements which are more restrictive than the National Electrical Code and/or more restrictive than the electrical drawings and specifications are considered to be project requirements in addition to the National Electrical Code and the electrical drawings and specifications.
 - 4. Conflicts between the requirements of the National Electrical Code and requirements of any other applicable building code utility requirements or ordinance shall be resolved in favor of the National Electrical Code unless

the conflicting code or requirement specifically states that it is to supersede the National Electrical Code.

- C. In addition to the requirements of the General, Special, and Supplementary conditions of the project's other specification sections and contract documents, the Electrical Specification includes the following Sections:

16000 ----- General Electrical Conditions
16010 ----- Test Requirements
16030 ----- Fire Rated Penetrations
16111 ----- Conduit
16120 ----- Conductors, Cables & Connectors
16134 ----- Outlet and Device Boxes
16141 ----- Light Switches
16147 ----- Cover Plates
16450 ----- Grounding
16474 ----- Panelboards & Switchboards
16477 ----- Safety Switches & Disconn. Means
16580 ----- Emergency Lighting
16741 ----- Telephone and Communications System
16913 ----- Mechanical Equipment Controls
16921 ----- Mechanical Equipment

1.02 ELECTRICAL SAFETY

- A. The Contractor shall enforce safe electrical practices and procedures throughout the project.

1.03 EXAMINATION OF SITE AND CONTRACTUAL DOCUMENTS

- A. Before submitting bid and beginning any work, it is understood and agreed that the Contractor has made himself aware of all Electrical Work required for the satisfactory completion of this Project by careful examination of all Plans, Specifications, the Work Site and related Contract Documents.

1.04 CONTRACTOR'S WARRANTIES

- A. The Contractor warrants that all Electrical Work shall be free from defects.
- B. Any defective Electrical Work shall be repaired by the Contractor without cost to the Owner, Architect, or the Electrical Engineer. This repair cost shall include any direct or indirect damages resulting from the failure or the repair of the Electrical Work.

- C. The Contractor warrants that he is qualified and authorized to do work in the State of Maine and is familiar with all general and special laws, ordinances, and regulations that may affect the work, its performance, or those persons employed therein.

1.05 CLEAN-UP

- A. At the completion of each workday, the area shall be left "broom" clean. At the completion of the project there shall be no Electrical Work debris left at the site.

1.06 DRAWINGS AND SPECIFICATIONS

- A. The Drawings and Specifications are complementary each to the other and the work required by either shall be included in the Contract as if called for by both. All conflicting directions between Drawings and Specifications shall be resolved by requiring the more restrictive direction be followed.
- B. All work shown on the Drawings is intended to be approximately correct to the scale of the Drawings, but figured dimensions and detailed Drawings are in all cases to assume precedence over them. Where differences exist between two or more descriptions of work to be accomplished, the more detailed description shall be followed.
- C. The Electrical Drawings are diagrammatic and are not intended to show every detail of construction or the exact location of equipment. Where building construction makes it advisable or necessary to change the location of equipment, the Contractor shall perform such work without additional cost to the Owner, Architect, or the Electrical Engineer for the project. Any doubt as to the intended location of equipment shall be resolved* by the Electrical Engineer before proceeding with the installation.
- D. Details and information not customarily shown on Electrical Drawings or described in Electrical Specifications, which are, however, necessary for the proper installation and operation of the project's systems and equipment or required to meet applicable codes shall be included in the Contractor's price the same as if herein specified and shown.
- E. The intent of Drawings and Specifications is to obtain an electrical installation of all systems, complete in every detail and with all electrical systems properly interconnected. The Electrical Contractor shall provide all such parts as may be necessary to complete the systems in accordance with the highest quality of industry standards and to the satisfaction of the Electrical Engineer. Upon

completion, the electrical systems and all equipment throughout the project shall operate safely, satisfactorily and function as intended.

- F. In any discrepancy between requirements of the Drawings and Specifications, the Electrical Engineer shall resolve the discrepancy.
- G. If the Contractor discovers any error or omission in the Drawings or Specifications or in the work undertaken and performed by him, he shall immediately notify the Electrical Engineer and the latter shall promptly investigate the matter and provide instruction for the correction thereof.
- H. The locations of existing and proposed underground utilities, if shown, are shown in an approximate way only. The Contractor shall determine the exact locations of all existing underground utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to locate and preserve existing underground utilities exactly.

1.07 CODES, STANDARDS, INSPECTIONS AND FEES

- A. All Electrical work shall be in accordance with the most recent edition or revision of the following documents. (Note: See paragraph 1.01B in addition to requirements below.)
 - 1. NFPA 101 (Life Safety Code).
 - 2. ANSI C2 (National Electrical Safety Code).
 - 3. Underwriters Laboratory detailed requirements for installation of listed material and equipment published in their documents titled:
 - a. Electrical Construction Materials Directory.
 - b. General Information for Electrical Construction, Hazardous Location, and Electrical Heating and Air Conditioning Equipment.
 - c. Fire Resistance Directory.
 - d. Electrical Appliance and Utilization Equipment Directory.
 - e. Fire Protection Equipment Directory.
 - 4. OSHA Section 1910 and 1926 (Electrical Design and Construction Standards).

5. BOCA (National Building Code).
 6. Local Central Maine Power Utility Requirements.
 7. Local Building Codes.
- B. In case of differences between any of the requirements in paragraph A above, as applied to this project, the most restrictive shall govern.
- C. Where Drawings and Specifications indicate work in addition to the above requirements, the Drawings and Specifications shall be followed.
- D. Contractor shall include in his Bid all work associated with the telephone and data systems.
- E. The Contractor shall be responsible for the timely notification of the Authority Having Jurisdiction in order that required inspections of Electrical work may be accomplished.
- F. The Contractor shall submit a letter to the Electrical Engineer stating that the Electrical Work has satisfactorily passed inspection by the Authority Having Jurisdiction.

1.08 DIMENSIONS AND COORDINATION

- A. The Contractor is responsible to verify field dimensions and coordinate Electrical Work with that of other trades.

1.09 TEMPORARY ELECTRICAL SERVICES

- A. The Contractor shall provide temporary electrical outlet receptacles totaling one every 900 square feet or a part thereof of work area and these shall be 20 Ampere, 120 volt receptacles protected by ground fault circuit interrupter circuit breakers.
- B. The Contractor shall provide temporary lighting such that no point in any area where construction is underway shall have less than 20 foot candles on the floor. If work is done after dark, the Contractor shall provide emergency lighting to illuminate the means of egress in accordance with NFPA-101.
- C. The Contractor shall remove all temporary wiring, lighting, receptacles and other temporary material before the project is substantially complete.

- D. The electric power consumed prior to Substantial Completion of the Project shall be paid for by the Contractor. No temporary electric resistance heaters will be allowed.

1.10 MATERIALS AND EQUIPMENT

- A. All materials and equipment provided as part of this project shall be new, undamaged and shall be "listed and labeled" for the use herein intended as defined in the National Electrical Code.
- B. Samples of materials and equipment shall be submitted to the Electrical Engineer for his review if requested.

1.11 EQUIPMENT IDENTIFICATION

- A. Provide black and white laminated plastic name plates attached with sheet metal screws and having 1/4 inch tall engraved letters identifying each piece of equipment listed below:
 - 1. Disconnect Switches.
 - 2. Power or Lighting Panels.
 - 3. Stop/Go Signal Control Switches.

1.12 MAINTENANCE INFORMATION

- A. The Contractor shall furnish all necessary assistance and instruction to properly train the Owner's authorized personnel in the operation and care of the electrical systems.
- B. The Contractor shall furnish a complete set of electrical shop drawings and operating and maintenance manuals for all electrical equipment to the Owner.
- C. The Contractor shall submit name, address and telephone number of the Manufacturer's representative and service company for each piece of electrical equipment for service and spare parts.

1.13 DEPARTURE FROM ELECTRICAL DRAWINGS AND SPECIFICATIONS

- A. No departure from the Electrical Drawings or these Specifications will be allowed without written request from the Contractor. A written request or departure from the Electrical Drawings and Specifications shall include all changes in project cost and effect on project completion schedule associated with the request.
- B. Any departure from the Electrical Drawings or from these Specifications which does not have the written approval of the Electrical Engineer may, at the discretion of the Electrical Engineer, have to be reworked at the expense of the Contractor.

PART 2 MEASUREMENT AND PAYMENT

2.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

2.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

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- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16010 - TEST REQUIREMENTS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Testing of project's systems and components.
- B. Test result documentation.
- C. A satisfactory operational test of all electrical systems both individually and interconnected with associated systems is required to prove satisfactory installation before final acceptance by the Electrical Engineer. The Contractor shall address a letter to the Electrical Engineer, which states that all operational tests were completed and electrical systems functioned satisfactorily.
- D. The right is reserved by the Electrical Engineer to inspect and test any portion of the equipment or material during the progress of construction.

1.02 RELATED WORK

1.03 REFERENCES

PART 2 EQUIPMENT

2.01 TESTING

- A. The Contractor shall provide all necessary instruments and equipment and make all tests, adjustments and trial operations required.

PART 3 EXECUTION

3.01 CONDUCTOR AND BRANCH CIRCUIT TESTS

- A. Verify with a continuity tester that phase conductors are not grounded prior to energizing the circuit for the first time.
- B. Verify that no current flows in grounding conductors when branch circuits are energized for the first time.

3.02 RECEPTACLE TESTS

- A. Every 125 Volt duplex type receptacle shall be tested with a receptacle wiring tester that detects errors of polarity and grounding.
- B. Every 125 Volt duplex type receptacle shall be tested to detect high resistance connections, excessive full load voltage drop from service entrance to receptacle, and inadequate plug cap blade retention.
- C. Ground fault circuit interrupter type receptacles shall be tested to assure that the trip level is not in excess of .005 Amperes.

3.03 FLUSH WALL PLATE TEST

- A. Cover plates for flush mounted light switches and receptacles shall be firmly mounted against the wall, ceiling or floor surface on all edges and corners. Using a piece of paper as a go no-go gauge, if the paper can be slid behind the cover plate at any point, the installation is unacceptable and shall be repaired.

3.04 GROUNDING

- A. The adequacy of the service entrance grounding system shall be tested by measuring the ground resistance with an earth test megger as described in the National Electrical Code Handbook. The ground resistance shall not exceed 25 Ohms. Provide additional ground rods and conductors as needed.

3.05 EMERGENCY LIGHTING SYSTEM

- A. The emergency lighting system shall be operated for 90 minutes. At the end of the 90 minute period the battery voltage shall be measured. The battery voltage shall not be less than 87-1/2% of the starting voltage.

- B. The Contractor shall verify that the emergency light heads are aimed at the floor so as to provide egress footcandle levels in accordance with the Life Safety Code.

3.06 LIGHTING SYSTEMS

- A. The Contractor shall verify that all lighting equipment was provided and operates as specified.

3.07 REWORK

- A. All project systems and system components shall be reworked until test results indicate that the specified criteria have been met.

3.08 DOCUMENTATION

- A. The Contractor shall address a letter to the Electrical Engineer, which states that all specified tests have been accomplished, lists the test results, and states that all systems and components meet the specified criteria.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SPECIAL PROVISION
SECURITY BUILDING

SECTION 16030 - FIRE RATED PENETRATIONS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Sealing electrical penetrations of fire rated walls, floors, and ceilings.
- B. Preserving ceiling fire ratings at recessed light fixtures.

1.02 RELATED WORK

- A. Conduits.
- B. Cables.
- C. Boxes.
- D. Wireways.
- E. Lighting.

1.03 REFERENCES (Electrical work shall be in accordance with the most recent edition or revision of the following documents.)

- A. UL publication: "Electrical Construction Materials Directory".
- B. UL publication: "Electrical Appliance and Utilization Equipment Directory".
- C UL publication: "General Information for Electrical Construction, Hazardous Location, and Electric Heating and Air Conditioning Equipment".
- D. UL publication: "Building Materials Directory".
- E. UL publication: "Fire Resistance Directory".
- F. NFPA 101: Life Safety Code.

PART 2 MATERIAL

2.01 ACCEPTABLE MANUFACTURERS (For UL Listed Fire Rated Sealing Material Only)

- A. 3M Company: "Fire Barrier" caulking, putty, and systems.
- B. Dow Corning: 11RTV Silicone Foam" sealants.

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall be responsible to determine the fire rating of every wall, ceiling and floor penetrated in the course of the Project's electrical work.
- B. The Contractor shall be responsible to preserve the fire rating of every wall, ceiling and floor with regard to penetrations associated with the Project's electrical work.

3.02 INSTALLATION

- A. All cables penetrating floors, ceilings or walls shall be provided in accordance with the UL listed fabrication details furnished by the manufacturer of the fire sealing material to maintain the fire rating.
- B. Alternate fire stopping methods are acceptable if they are in accordance with a method shown in the UL Fire Resistance Directory and UL Building Materials Directory.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SPECIAL PROVISION
SECURITY BUILDING

SECTION 16111 - CONDUIT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Rigid Metal Conduit and Fittings.
- B. Electrical Metallic Tubing and Fittings.
- C. Flexible Metal Conduit and Fittings.
- D. Liquid tight Flexible Metal Conduit and Fittings.
- E. Rigid Non-Metallic Conduit and Fittings.
- F. PVC Coated Rigid Galvanized Steel Conduit and Fittings.

1.02 RELATED WORK

- A. Cutting and Patching.
- B. Trenching: Excavation and Backfill for Conduit and Utilities on Site.
- C. Fire Rated Penetrations: See Section 16030.

1.03 REFERENCES

- A. Applicable UL listing requirements.
- B. Applicable NEMA standards.

1.04 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEA construction and testing standards and UL listing requirements applicable to the intended use for this project.

PART 3 EXECUTION

3.01 ELECTROLYSIS

- A. Do not bring dissimilar metals into contact with each other to prevent electrolysis. Where dissimilar metal contacts cannot be avoided, coat surfaces with corrosion inhibiting compound before assembling.

3.02 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

- A. Size conduit for Type XHHW insulated conductors, except for service wiring, unless conduit size is otherwise specified on the Drawings.
- B. Arrange conduit to maintain headroom and present a neat appearance.
- C. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.
- D. Maintain minimum six inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.
- E. Arrange conduit supports to prevent distortion of alignment by wire pulling operations.
- F. Group conduit in parallel runs using conduit racks constructed of steel framing channel, threaded rods, and conduit straps or clamps. Provide space for 25 percent additional conduit.
- G. Do not fasten conduit with wire or perforated pipe straps. Remove all temporary conduit supports before conductors are pulled.

3.03 CONDUIT INSTALLATION

- A. Cut conduit square and de-burr cut ends.
- B. Use hydraulic one-shot conduit bender or elbows for bends in conduit larger than two inch trade size.
- C. Do not construct moisture traps in conduit runs. All conduit shall slope to drainage points.

- D. Use suitable conduit caps to protect empty conduit against-entrance of dirt and moisture.
- E. Provide suitable pull wire in every empty conduit.
- F. Make connections to motors and vibrating equipment with a minimum of 24 inches of flexible conduit. Minimum size 1/2 inch for motor connections. Use 3/8 inch flexible conduit only for fixture and control wiring.
- G. All Service Entrance conduit will have grounding bushings with plastic throats.
- H. All penetrations of building's exterior envelope shall be made weatherproof.
- I. All metal conduit shall be grounded but shall not be used as the grounding conductor.
- J. All conduit entering concentric knockouts shall be terminated in bonding bushings with bonding conductor.

3.04 CONDUIT INSTALLATION SCHEDULE

- A. Underground Electric Service and Telephone Installations shall be concrete encased schedule 40 PVC conduit.
- B. Any Branch Circuit Installations in or Under Concrete Slab, shall be PVC coated Galvanized Rigid Steel.
- C. Outdoor Locations shall be PVC coated Rigid Galvanized Steel Conduit.
- D. Exposed Interior Locations shall be Electrical Metallic Tubing unless otherwise noted on the Electrical drawings or in more detailed parts of the Specification.
- E. Schedule 40 PVC Conduit shall be converted to Rigid Steel before entering building through foundation wall or slab.
- F. No Plastic Conduit shall be used within the building.

3.05 PULL WIRES

- A. Provide pull wires in all empty conduits. Provide tags on each end of all pull wires giving location of other end.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

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- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16120 - CONDUCTORS, CABLES, AND CONNECTORS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Conductors and Cables.
- B. Connector Hardware.

1.02 RELATED WORK

- A. Identification.
- B. Supports and Fasteners.
- C. Conduit Requirements: Section 16111.
- D. Fire Rated Penetrations: See Section 16030.
- E. Test Requirements: See Section 16010.

1.03 SUBMITTALS - Provide shop drawing Submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 ACCEPTABLE MANUFACTURERS

- A. Firms regularly engaged in manufacture of electrical conductors, cables and connectors of types and ratings required, whose products have been in satisfactory use in similar service for not less than three years.

2.02 MATERIALS

- A. Conductor material (COPPER):Electrical conductors of 801 conductivity, annealed Copper shall be used through out the project. Individual conductor insulation shall be type XHHW, 600 Volts, and shall be UL listed and labeled for the use herein intended. Note: Conduits are sized based on XHHW insulation.
- B. Conductor material (ALUMINUM): NO ALUMINUM CONDUCTORS SHALL BE ALLOWED IN ANY APPLICATION ON THIS PROJECT.
- C. Individual branch circuit conductors shall not be smaller than AWG #12 except for control wiring. Conductors shall have insulation rated at 600 Volts. The ampacity shall be sized at 75/90 degrees Centigrade.
- D. Fixture conductors shall be heat resistant thermoplastic rated for 600 VAC and with a minimum operating temperature rating of 90 degrees Centigrade.
- E. Conductors sized AWG #10 and smaller shall be solid and connected by either color coded twist-on spring loaded or color coded die compression type connectors.
- F. Conductors sized AWG #8 and larger shall be stranded and shall be connected by either color coded die compression or bolted connectors.
- G. Connectors which pierce insulation as means of making contact with conductor SHALL NOT BE ALLOWED on conductors sized AWG #10 or smaller.
- H. Connectors which pierce insulation as means of making contact with conductor shall have the contact pressure maintained by steel nut and bolt.
- I. Exterior exposed wiring shall be in PVC coated Rigid Galvanized Steel.
- J. Individual XHHW insulated conductors ampacity shall be sized at 75/90 degrees Centigrade through AWG #1 and at 75 degrees Centigrade.
- K. All conductors and cables used on this project shall have an overall insulation rating of 600 VAC.
- L. Type MC cable shall be used for size AWG #10 & 12 branch circuits except where rigid or flexible metal conduit is specified.
- M. Branch circuits larger than AWG #10 shall be individual conductors in electrical metallic tubing (EMT).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide copper clad steel grounding electrodes, copper electrode conductors, and copper straps.
- B. Identify circuits in panelboards with permanent tags attached to conductors as they leave breaker or fuse lugs. This requirement is in addition to panel directory requirements of Section 16474.
- C. Use wire pulling lubricant for pulling AWG #4 and larger wire. Lubricant shall be UL listed and labeled for the conductor insulation used.
- D. Pull wire into conduit only after nearby construction work is complete and after moisture and debris is removed from conduits.
- E. Color code conductors to designate grounding conductor, neutral conductor and phase conductors as follows:

120/240 volt

Phase - A	Black
Phase - B	Red
Neutral	White
Ground	Green

- F. Pull conductors together where more than one is being pulled in a raceway.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SPECIAL PROVISION
SECURITY BUILDING

SECTION 16134 - OUTLET AND DEVICE BOXES

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Outlet Boxes (wiring device attached to cover).
- B. Device Box (wiring device attached to box).

1.02 RELATED WORK

- A. Fire Rated Penetrations: See Section 16030.

1.03 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 MATERIALS

- A. Boxes.
 - 1. For use on all interior walls in dry locations, boxes shall be code conforming galvanized steel.
 - 2. For use on interior sides of all exterior walls in dry locations, boxes shall be code conforming galvanized steel.
 - 3. Boxes mounted on ceiling or in conjunction with light fixtures shall be galvanized steel.
 - 4. Do not use sectional boxes for multi-gang outlets.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Where interior boxes are mounted in exterior walls the Electrical Contractor shall provide insulation behind outlet boxes to prevent condensation in boxes.
- B. In all junction boxes exposed to weather, drill 1/8 inch diameter drain hole into box cavity at lowest point.
- C. Wall plates for flush outlet boxes shall be against the wall on all edges and corners. See Test Requirements and Criteria, Section 16010.
- D. Where outlet boxes are installed by doors, windows, or any other wall opening, the outlet box shall be mounted at least four inches away from the frame and any molding around the opening.
- E. Where enclosures are not sized on the Electrical Drawings, it shall be the Electrical Contractor's responsibility to provide a box sized in accordance with The National Electrical Code.
- F. Do not mount recessed boxes back to back in any partition, wall, floor or ceiling.
- G. Verify that not more than 100 square inches in 100 square feet is being used for penetrations in fire rated walls by outlet and device boxes. Verify that all other UL listing requirements are followed for installation of outlet and device boxes in fire rated walls.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SPECIAL PROVISION
SECURITY BUILDING

SECTION 16141 - LIGHT SWITCHES

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Wall Switches.

1.02 RELATED WORK

- A. Outlet Boxes.
- B. Cover Plates.
- C. Grounding.

1.03 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 ACCEPTABLE MANUFACTURERS

- A. Provide switches in accordance with the material and symbol lists, notes on the drawing, and this specification.

2.02 MATERIALS

- A. Light Switches (ALL TYPES).
 - 1. Shall be rated 20 Amperes.
 - 2. Provide matching two pole, 3 way and 4 way switches and dimmers.
 - 3. Switches shall be rated 120/277 VAC.

4. Color shall be gray.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Mount top of switch outlet box 48" AFF unless otherwise noted on Drawing.
- B. Coordinate mounting location with Architectural details.
- C. Light switches by doorways shall be mounted on the latch side of the door openings. Verify door swings with Architectural Plans.
- D. Light switches by doorways shall be mounted at least 4" away from door frame.
- E. When more than one light switch (multi-gang) is provided by a door, the lights closest to the door shall be controlled by the light switch closest to the door opening.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16147 - COVER PLATES

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Cover Plates (Standard and Waterproof).

1.02 RELATED WORK

- A. Testing: See Section 16010.

1.03 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 MATERIALS

- A. Cast Metal: Die cast aluminum furnished with four mounting screws and gasket for exterior receptacles and switches.
- B. Gaskets: Silicon Rubber for use with Exterior and wet interior outlet boxes.
- C. Steel: Hot dip galvanized or cadmium plated.
- D. All exterior receptacle and switch boxes shall be fitted with corrosion resistant, watertight, weatherproof, self closing weatherproof covers while in use.
- E. Wet location receptacles shall be watertight and weather-proof both when the plug cap is in use and when the plug cap is not in use.
- F. Brushed Stainless Steel wall plates shall be used on all flush boxes in finished walls.

2.02 PLATES

- A. Flush mounted plates shall be beveled type with smooth rolled outer edge.
- B. Surface mounted box cover plates shall be beveled, pressure formed with smooth edge to fit box. Break all sharp edges with file.
- C. Where two-gang boxes are required for single-gang devices, provide special plates with device opening in center of plate. Do not use two gang plates with one opening blanked.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide cover plates on all device, outlet, and junction boxes.
- B. Inspect each damp or wet location cover plate installation to insure that the gasket is properly sealing the enclosure.
- C. All cover plates on flush mounted boxes shall be firmly mounted against and touch the wall, ceiling or floor surface on all edges and corners. If a piece of paper can be slid behind the cover plate at any point, that installation is unacceptable and shall be repaired.
- D. All cover plates shall be parallel and perpendicular to major building lines.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SECURITY BUILDING

SECTION 16450 - GROUNDING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Power System Grounding.
- B. Telephone and Communications System Grounding.

1.02 RELATED WORK

- A. Section 16111 - Conduit.
- B. Section 16120 - Wire and Cable.
- C. Testing: See Section 16010.
- D. Fire Rated Penetrations: See Section 16030.

1.03 SUBMITTALS

- A. Do not provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 GROUNDING RODS

- A. Provide copper clad steel grounding rods sized as indicated.

2.02 GROUNDING ELECTRODE CONDUCTOR

- A. Connect slab reinforcing mesh to grounding electrode conductor at three points.

- B. Provide at least two grounding electrodes at least six feet apart. Provide as many more than two as needed to meet the 25 OHM requirement in accordance with NFPA 70.
- C. Bond and ground domestic water.

PART 3 EXECUTION

3.01 POWER SYSTEM GROUNDING

- A. Circuit Grounding: Provide grounding bushings, studs, jumpers, and bonding conductors as required at service entrance main breaker, panelboards, and distribution system Users equipment.
- B. Provide as many ground rods as necessary to achieve a safe and adequate system ground. See paragraph 2.02 C. above.

3.02 COMMUNICATION SYSTEM GROUND

- A. Telephone: Provide one AWG #2 with green THWN insulation from ground bus at telephone service entrance to the electrical system grounding electrode.

3.03 GROUNDING CONDUCTOR

- A. All metallic conduit shall be grounded but shall not be used as the grounding conductor.
- B. A separate green insulated grounding conductor shall be provided for every branch circuit in conduit.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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SECURITY BUILDING

SECTION 16580 - EMERGENCY LIGHTING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Emergency Lighting and Exit Signs.
- B. Provide AC power to all Self Contained Emergency Powered Exit Signs and Battery Packs.
- C. Provide DC power to non-self contained Emergency Powered Remote heads.

1.02 RELATED WORK

- A. Testing: See Section 16010.
- B. Fire Rated Penetrations: See Section 16030.

1.03 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 ACCEPTABLE MANUFACTURERS

- A. Refer to Luminaire schedule on drawing for AC and DC Emergency Lighting System Equipment.

2.02 EMERGENCY BATTERY UNITS

- A. Provide fully automatic operation on power failure with minimum operating time of 90 minutes for light heads and exit signs.
- B. Provide battery, fully automatic chargers with built-in test switch, battery state indicator, and mounting brackets.

- C. Battery output power shall be fused by manufacturer.

2.03 EMERGENCY LIGHT SYSTEM

- A. Battery packs shall have a minimum three year full warranty with a minimum eight year life expectancy.
- B. Lamps and lampholders shall be described on the Electrical Drawings.

2.04 EXIT SIGNS

- A. Directional arrows shall be provided, to point toward the location of exits when not directly below exit sign.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Size wire so that no voltage drop between battery unit and furthest remote light is greater than 2% of the rated battery voltage.
- B. Provide unit in accordance with the Manufacturer's Instructions and notes on the Drawings.
- C. Provide wiring to remote light heads for emergency power on same circuit as the fixtures serving the area.
- D. Provide junction box near battery pack for connection of multiple circuits to single emergency power conductor from battery.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16741 - TELEPHONE AND COMMUNICATIONS SYSTEM

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Telephone and Communications System.
- B. Conduit between Pay Phone Outlets and Telephone Service Entrance.
- C. Conduit between existing security building and new security building.
- D. Single line telephone dialer.

1.02 RELATED WORK

- A. Conduit.
- B. Outlet Boxes.
- C. Identification Systems.
- D. Pull and Junction Boxes.
- E. Cabinets.
- F. Testing: See Section 16010.
- G. Fire Rated Penetrations: See Section 16030.
- H. Traffic Rated Handholes.

1.03 SYSTEMS DESCRIPTION

- A. Fiber, copper and Cat 5e Cable and Devices to form Signal and Data Distribution System.
- B. Provide 2-pair cable from each payphone outlet to telephone service entrance. Confirm that this cable will be satisfactory to telephone equipment supplier.

- C. The Contractor shall provide all interior building wiring, outlet boxes, telephone and data plug receptacles, cables, conductors, and connectors as needed to provide an operating system within the Building.
- D. The Contractor is not responsible to provide telephone instruments, switchboards, or remote control equipment.
- E. Provide conduit and power wiring for coin operated payphones.

1.04 REGULATORY REQUIREMENTS

- A. The telephone cable, customer side, shall be provided by the Contractor in accordance with the requirements of the Telephone Utility.
- B. Coin operated payphone station installation shall be in accordance with Verizon requirements.

1.05 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 MATERIALS

- A. Conduit: Refer to Section 16111.
- B. Outlet Boxes: Refer to Section 16134.
- C. Backboards: 3/4 inch fir plywood finished in matte black paint.
- D. Pull and Junction Boxes: Refer to Section 16131.
- E. Telephone cable shall be as specified by the local utility.
- F. Provide fiber, copper and Cat 5e cable as specified by the Owner.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide telephone signal and data distribution cables throughout project. Provide a Cat 5e cable between each telephone voice and data outlet and the telephone and LAN service entrance backboard.
- B. Provide plywood blackboards at telephone and LAN service entrance as required. Confirm location on jobsite prior to installation with Owner.
- C. Provide telephone outlet boxes at location shown on Drawing. Provide 3/4 inch EMT between outlet box and a point above an accessible ceiling.
- D. Provide all permanently mounted electrical material and equipment needed to provide a satisfactorily operating telephone and LAN system.
- E. Provide 3/4 inch empty EMT between coin operated telephone outlet and telephone service entrance backboard. Allow no more than 180 degrees of bends without pull box. Leave pull tape in conduit for use by Telephone Company. Telephone outlet box shall be 4 inches square flush mounted 47 inches above the floor.
- F. Provide an electrical ground for the telephone system.
- G. The Contractor shall provide a listed protector where each telephone circuit enters the building.
- H. Telephone conductors and cables shall be more than 2 inches away from any other wires.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

<u>Pay Item</u>	<u>Pay Unit</u>
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- END OF SECTION -

SPECIAL PROVISIONS - TECHNICAL
TERMINAL BUILDING

SECTION 16770 - PAGING SYSTEM

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide Paging System.

1.02 RELATED WORK

- A. Cabinets.
- B. Outlet Boxes.
- C. Testing: See Section 16010.
- D. Fire Rated Penetrations: See Section 16030.

1.03 SYSTEM DESCRIPTION

- A. All interior building wiring, outlet boxes, paging system equipment receptacles, cables, conductors, and connectors as needed to provide an operating system within the building.

1.04 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 MATERIALS

- A. Provide equipment and materials associated with the paging system detailed on the electrical drawings.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide all permanently mounted electrical material and equipment needed to provide a satisfactorily operating paging system.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

Pay Unit

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Lump Sum

- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16913 - MECHANICAL EQUIPMENT CONTROLS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Mechanical Equipment Controls.

1.02 RELATED WORK

- A. Conduit.
- B. Wire and Cable.
- C. Motor Starters.
- D. Testing: See Section 16010.
- E. Fire Rated Penetrations: See Section 16030.

1.03 SUBMITTALS - Do not provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 ACCEPTABLE MANUFACTURERS

- A. See Electrical Drawing material List and material List accompanying electrical equipment of other trades. Use equipment specified by Manufacturers as optimum for performance of their equipment.

PART 3 EXECUTION

3.01 INSTALLATION

- A. All power wiring and disconnect switches, shall be provided by Electrical Contractor.
- B. Temperature control wiring and connection to remote devices shall be under Section 15000.
- C. Electrical Contractor shall verify in field the location of point of connection to equipment of other trades.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

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- END OF SECTION -

SPECIAL PROVISION
SECURITY BUILDING

SECTION 16921 - MECHANICAL EQUIPMENT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Water Heater.
- B. Interior and exterior.
- C. Mechanical Equipment.
- D. Temperature controls shall be under Section 15000.

1.02 RELATED WORK

- A. Testing: See Section 16010.
- B. Fire Rated Penetrations: See Section 16030.

1.03 SUBMITTALS - Provide shop drawing submittals.

PART 2 PRODUCTS

NOTE: All products shall meet NEMA construction and testing standards and UL listing requirements applicable to the intended use for this project.

2.01 ACCEPTABLE MANUFACTURERS

- A. Refer to accessory requirements and recommendations by Manufacturer of mechanical equipment being provided.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Refer to Mechanical Plans for details of Electrical requirements of Mechanical Equipment not shown on Electrical Plans or described in the project Electrical Specification.
- B. Refer to Mechanical plans for details of electric equipment supplied with mechanical systems.
- C. Provide equipment disconnect switches with thermal overload protection for Mechanical and Plumbing equipment if not otherwise noted on the Electrical Drawings or Specifications.
- D. Review Mechanical Drawings and Specifications to identify equipment and material to be provided by the Electrical Contractor that is not covered in the Electrical Drawings and Specifications.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work of this Section will be measured on a lump sum basis.

4.02 PAYMENT

- A. Separate measurement and payment will not be made for the work of this Section, but all costs therefore shall be included in the Contract Lump Sum Price for the work as indicated herein.

Pay Item

Pay Unit

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Lump Sum

- END OF SECTION -